Martine Cuvalay-Haak

THE VERB IN LITERARY AND COLLOQUIAL ARABIC

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Functional Grammar Series 19

Editors

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The Verb in Literary and Colloquial Arabic

by

Martine Cuvalay-Haak

To the memory of Simon C. Dik

Acknowledgements

This book has many origins. I first became interested in Arabic while traveling in North Africa, trying to keep up with the local ways of saying 'thank you' and 'one coffee with milk, please'. I wish to express my gratitude for the generous hospitality which I encountered during these and later trips, and for the patience of my 'teachers', Abdellah El-Moumen and Amina Saladi.

That I, as a former student in cognitive psychology, came to study general linguistics is due to my co-workers at the City cinema, at least four of whom were linguists. They glanced at grammars of mysterious languages in the dull moments behind the counter and convinced me that I should join them. I am still grateful to Wijnie de Groot for her lessons on Functional Grammar between the sale of ice-creams.

Since I came to the department of general linguistics, Casper de Groot has guided me through the world of predicate frames, semantic functions and operators. He supervised my first term paper ('De zusters van *kāna*') and my MA thesis ('Tijd, Modaliteit en Aspect in het Kaireens-Arabisch'), and supported my application for a position as a research assistant. He has continued to advise and support me, most intensively during the last few years as the supervisor of my project. I am also grateful to my promotor, Manfred Woidich, for contributing to my fascination with Arabic dialects. Apart from his expertise, critical commentary and inspiring suggestions, he also provided a wealth of books and articles, and a quiet place to work.

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Contents

Notes on the transcription and glosses

1. Transcription

The system for transcribing Classical and Modern Standard Arabic is based
on Wehr (1974), with the following exceptions:

Arabic	Wehr	Cuvalay	Phonetic	Description
خ	k̲	x	[x]	voiceless velar fricative
ع	ʿ	ε	[ʕ]	voiced pharyngeal fricative
غ	ḡ	ġ	[ɣ]	voiced velar fricative

Examples of Modern Arabic are usually transcribed according to the system
of the cited authors, with some slight modifications to make the represen-
tations more homogeneous. In general, transcriptions of MA dialects are
close to or identical with the IPA system. Long vowels are indicated by a
raised dash [⁻]. Subscripted dots indicate pharyngealization, also known as
emphasis. Transcriptions and quotes from transcriptions are in cursive script.

In the transcriptions as well as the glosses, affixes without a morpho-
logical influence on their host are indicated by a hyphen [*pre-verb-suf*].

2. Gloss lines

Gloss lines underneath the Arabic sentences indicate the morphosyntactic
structure of words in so far this is necessary to interpret the examples.
Inflectional characteristics of verb forms are indicated as follows:

(i)   Translations of prefix-set verb forms are unmarked [verb].

(ii) Translations of suffix-set verb forms are underlined [verb].

(iii) Active participle forms are indicated by a full stop directly after the translation of the verb, followed by the abbreviation 'AP' [verb.AP].

(iv) A colon introduces further characteristics of the verb form, in so far they are not expressed independently by affixes (which are separated from their host by hyphens). These characteristics include:
      - Conjugations of the prefix set in CA and MSA [verb:IMP, verb:IND, verb:JUS, verb:SUBJ].
      - Information on person, number and gender (separated from each other by full stops) [verb:3.M.SG, verb:IND.2.F.PL, etc.]

List of abbreviations and symbols

1. Abbreviations in the gloss lines

1	first person
2	second person
3	third person
ACC	accusative case
ADH	adhortative prefix
AP	Active Participle
ASS	Assertive Mood
DECL	Declarative
DEF	definite
EMP	emphatic prefix
ENERG	prefix set with energic ending
EXCL	Exclamative
F	feminine
FUT	Future Tense
GEN	genitive case
GENER	Generic Mood
HAB	Habitual Aspect
IMP	special imperative inflection of the prefix set
IND	prefix set with indicative ending
INT	interrogative particle
JUS	prefix set with jussive ending
M	masculine
NEG	Negation
NOM	nominative case
OPT	optative marker
PART	particle (unspecified)

PASS   inflectional passive
PL   plural
PM   preverbal marker
PROG   Progressive Aspect
PROSP   Prospective Aspect
SG   singular
SUBJ   prefix set with subjunctive ending
VOC   vocative particle

Some of the glosses refer to special forms, while others indicate the functions of individual morphemes. The intended interpretation is reflected in the above descriptions, and/or clarified in the text.

2. FG symbols and abbreviations

$\emptyset$ Zero (semantic function)
1   singular (Ω-operator)
μ morpho-syntactic expression operator
Ω term operator
$\pi_\emptyset$ predicate operator
π_1 core predication operator
π_2 extended predication operator
π_3 proposition operator
π_4 illocutionary operator
π_5 expression operator
$\sigma_\emptyset$ predicate satellite
σ_1 core predication satellite
σ_2 extended predication satellite
σ_3 proposition satellite
σ_4 illocutionary satellite
σ_5 expression satellite

[± con]	± control
[± dyn]	± dynamic
[± exp]	± experience
[± mom]	± momentaneous
[± tel]	± telic
A	Adjectival [$pred_A$]
A^1	first argument
A^2	second argument
A^3	third argument
Ad	Addressee
Adv	Adverbial [$pred_{Adv}$]
Ag	Agent (semantic function)
Ben	Beneficiary (semantic function)
c_i	core predication
C_i	clause
d	definite (Ω-operator)
Dir	Direction (semantic function)
e_i	extended predication
E_i	expression
f_i	basic or derived predicate
FG	Functional Grammar
Fo	Force (semantic function)
Go	Goal (semantic function)
i	indefinite (Ω-operator)
ILL	abstract illocutionary frame
Loc	Locative (semantic function)
m	masculine (Ω-operator)
pl	plural (Ω-operator)
Po	Positioner (semantic function)
Poss	Possessor (semantic function)
Proc	Processed (semantic function)
pred	predicate

R	reference point or interval
Rec	Recipient (semantic function)
Ref	Reference (semantic function)
S	moment of speech
SoA	State of Affairs
So	Source (semantic function)
Sp	Speaker
V	Verbal [$pred_V$]
x_i	term
X_i	proposition

Semantic functions are indicated by their abbreviation in subscript [$(term)_{Go}$]. If a term may have two or more alternative semantic functions, the corresponding abbreviations are separated by a slash [$(term)_{Ag/Fo}$]. Sometimes, two semantic functions are ascribed to the same term. In this case, the abbreviations are not separated by a slash [$(term)_{ProcExp}$].

3. Miscellaneous

√	root

AP	Active Participle
CA	Classical Arabic
EA	Egyptian Arabic
JA	Jordanian Arabic
MA	Modern Arabic
MSA	Modern Standard Arabic
TMA	Tense, Mood and Aspect

0. Introduction

This study is devoted to phenomena associated with the Arabic verb: the internal structure of the verbal predicate, the expression of Tense, Mood, and Aspect, and the formation of verbal complexes. The descriptions of these phenomena in grammars and specialized studies will be analyzed within the theoretical framework of Functional Grammar (FG). The aim of this enterprise is twofold: it strives for a deeper understanding of the Arabic data and offers a critical examination of the applicability of the FG framework.

Many orientalists question the merits of a theoretical approach to the description of a single language. They prefer a solid data-driven analysis resulting in an accurate grammar that is accessible to readers of different theoretical backgrounds. There are good reasons to avoid the excessive use of specialized terminology in favour of broad accessibility. It is also true, however, that the application of a coherent, theoretically based system of notation can make a linguistic description more precise and readily understandable. And whether it is explicitly reflected in a grammar or not, theoretical insights invariably guide all linguistic observations and analyses of the observed phenomena (see Dik 1989b: 34).

I therefore fully agree with Comrie (1990: 3), that "Arabic linguistics should not be a completely autonomous discipline, whether in terms of failing to take from general linguistic theory, or in terms of not contributing to that general theory". Especially in the field of verbal expression a fruitful exchange between empirical work and theoretical postulations is to be expected. My investigation of verbal expression must be evaluated as a contribution to this ongoing exchange.

The choice of the Functional Grammar model as the main source for the theoretical principles and descriptive tools is a practical one. FG may be described as a dynamic theory, which continuously strives to improve its pragmatic, psychological, and typological adequacy (see Dik 1989a: 12-13). It deliberately integrates the insights gained in subdisciplines of general linguistics. Recent developments in FG theory have profited enormously from the popularity of temporal, modal, and aspectual phenomena (henceforth TMA phenomena) in linguistic research, and the model reflects the findings of typological studies in this area. The notations and principles are based on universally attested rules and tendencies, and by using them I will

in fact be comparing the Arabic data with what is currently known about natural language systems of verbal expression.

After a brief introduction to the Arabic language group (chapter 1), the relevant parts of FG theory will be outlined in chapter 2. This chapter describes more or less chronologically how the representation of TMA phenomena took shape, eventually leading to the hierarchically layered underlying clause structure, which was 'officially' adopted in 1989. Chapter 3 will discuss the later publications on the layered clause structure, and will combine their insights in a proposal to adapt the model. This modified model serves as the theoretical background for the analysis of the Arabic data.

Chapter 4 deals with the internal structure of the verbal predicate. It discusses the peculiarities of the Semitic 'roots and patterns' morphology and suggests how the system of verbal derivation may be represented within FG. Chapter 5 introduces the main inflectional verb forms. It will be argued that most of these verb forms have several distinct functions. The verbal uses of the Active Participle will be described in chapter 6. Chapter 7 explains how multiple TMA values are expressed in verbal complexes with the auxiliary verb *kān* 'to be'.

The analyses will be illustrated with examples from Classical and Modern Standard Arabic. A fair amount of the literature on verbal expression in colloquial dialects is represented too. Due to the unbalanced availability of detailed descriptions, some dialects will get more attention than others. As a rule, both similarities and differences between colloquial dialects will be treated. The conclusions of the descriptive chapters will be brought together and evaluated in chapter 8.

1. The Arabic language group

1.0. Introduction

The expression *al-luġatu l-ɛarabīyatu ġanīya* 'the Arabic language is rich' turns up in many courses of Arabic, probably to encourage students to persist in their endeavours to master the language.[1] Although the 'richness' is meant to refer to the extensive vocabulary and grammar of *al-ɛarabīyatu l-fuṣḥā* 'pure Arabic', I quote this familiar expression here to point at the wealth of diversity in the Arabic language group as a whole, including the innumerable varieties of *al-ɛarabīyatu l-ɛāmmīya* 'colloquial Arabic'.[2]

The term *al-fuṣḥā* refers to Classical Arabic (CA) as well as its contemporary variant, Modern Standard Arabic (MSA).[3] CA and MSA are structurally very similar, and grammatical distinctions between these two varieties must be formulated in tendencies rather than rules (see section 1.2). MSA is used for literary and formal communication throughout the Arab world. The term *al-ɛāmmīya* covers a wide variety of Modern Arabic (MA) dialects, which each have their own vocabulary and grammar. With the exception of Maltese, the MA dialects do not have the status of an independent language. They are generally not used in writing, and consequently lack a standardized form. Native speakers tend to think of their mother dialect as an impure variety of *al-fuṣḥā*, although MSA differs so much from the colloquial dialects that it has to be learned as a second language.

This chapter describes the nature of the diversity within the Arabic language group, and gives an idea of the relationships between the different varieties. The genetic, chronological, geographical, sociological and linguistic classifications of varieties of Arabic will be introduced in sections 1.1

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1. See for instance Fischer and Jastrow (1982: 16).

2. The predominantly spoken types of Arabic are usually called *colloquial*, as the term *vernacular* is not current in descriptions of the Arabic situation. The term *variety* may denote a regio- or sociolect as well as a particular stylistic level or a historical stage.

3. Hinds and Badawi (1986: viii) refer to CA as *fuṣḥā t-turāt* 'the *fuṣḥā* of the heritage', and to MSA as *fuṣḥā l-ɛaṣr* 'the *fuṣḥā* of the age'.

to 1.5. Section 1.6 bears on the collection and interpretation of the descriptive material used in the analysis of verbal expression.

1.1. Genetic classification

1.1.1. The position of Arabic in the Semitic family

The Semitic languages form a separate family within the Afro-Asiatic language group. An initial subdivision in the Semitic branch divides East Semitic, of which Akkadian is the only representative, from West Semitic, the assumed common ancestor of all other languages in the family. According to Hetzron (1976), West Semitic is to be subdivided further into South and Central Semitic.

Proto-Semitic

West Semitic   East Semitic (Akkadian)

South Semitic   Central Semitic

                                    Arabo-Canaanite   Aramaic

Ethiopian Epigraphic Modern   Arabic   Canaanite
           South-Arabian South-Arabian
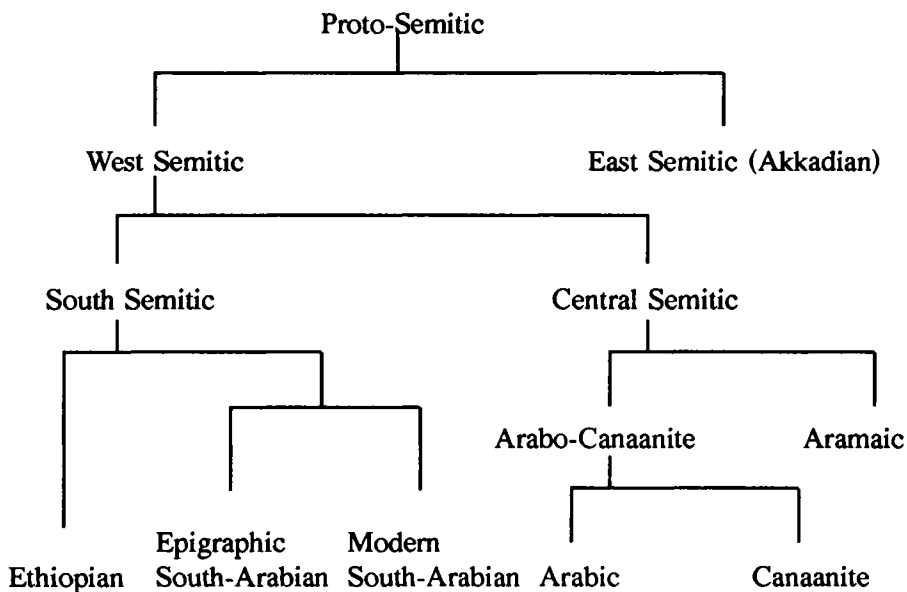
Figure 1. The genealogical tree of Semitic (Hetzron 1976)

From South Semitic, both Ethiopian and Arabian developed. Arabian is represented by a group of ancient written sources commonly referred to as Epigraphic South-Arabian (Sabaean, Minaean, Qatabanian, Ḥaḍramī, and Awsanian) and a few Modern South-Arabian dialects (Mehrī, Šhawrī and Soqoṭrī).[4]

In the Central Semitic group, Arabic and Canaanite share linguistic similarities which set them apart from Aramaic. Hetzron (1976) hypothesizes that a common ancestor of both Arabic and Canaanite developed out of Central Semitic while Aramaic was already following its own course (see figure 1). The justification of a genetic split between South and Central Semitic has been questioned on the basis of certain similarities between South-Arabian and Arabic. Some scholars prefer to put South-Arabian in the Central Semitic branch (Voigt 1987), while others opt for the classification of Arabic within South Semitic (Diem 1980, Moscati et al. 1969).[5]

According to Zaborski (1991), the contradictory evidence points at a dialect continuum in which the Arabic dialect group takes an intermediate position between North Semitic and South-Arabian. Others explain the resemblance of South-Arabian and Arabic by language contact and substrate influences. Zaborski (1991) reviews the recent attempts to arrive at a more detailed classification, and argues against a further genealogical differentiation of West Semitic.

1.1.2. *Genetic relations within the Arabic language group*

It is impossible to say anything conclusive about genetic relations within the Arabic language group. As Rabin (1951: 17) puts it: "owing mainly to our scanty knowledge of the ancient dialects, all views on the relations between them and Classical Arabic are guesses or working hypotheses." The same holds for the development of the colloquial Modern Arabic (MA) dialects, and their relation to the ancient dialects and Classical Arabic: we do not

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4. In contrast to *Arabic*, the adjective *Arabian* has a strong geographical association. So Arabic dialects include all varieties of the language, whereas Arabian dialects are principally spoken on the Arabian peninsula. A similar distinction is felt between the adjectives *Arabian* and *Arab*, when they refer to people. In Dutch and German, all three words are translated with *Arabisch*.

5. See Rodgers (1991) for an evaluation of the different viewpoints.

know how the current linguistic situation originated, but there are a few interesting hypotheses which reveal some of the complexity involved.

1.1.2.1. The linguistic background of Classical Arabic

Already before the foundation of Islam, the tribes which inhabited the Arabian peninsula used a stylistic variety of Arabic for the recitation of poetry. This variety is taken to be the direct predecessor of Classical Arabic (Rabin 1955: 74). It is not clear how the pre-Classical variety originated, and whether it differed substantially from the colloquial dialects spoken at the time. According to Rabin (1951), the colloquial dialects of the pre-Islamic period can be subdivided into an Eastern Arabic and a West-Arabian group. He claims that it is most likely that Arabic poetry, and thus the language in which it was composed, developed somewhere in the Najd, a region where East- and West-Arabians came together. As such, pre-Classical Arabic contained elements of both groups from the beginning.

1.1.2.2. The Modern Arabic dialects

Some theories concerning the origin of the MA dialects depart from the assumption that the ancient colloquial dialects did not differ essentially from Classical Arabic (Nöldeke 1904, Fück 1950, Blau 1977, Versteegh 1984, inter alia). Other theories are based upon the idea that there were already considerable differences between the spoken dialects and the intertribal cultural language before the period of the Islamic conquests (Vollers 1906, Wehr 1952, Spitaler 1953, Corriente 1975, Zwettler 1978).[6]

No matter how they describe the pre-Islamic situation, all theories of the development of the MA dialects acknowledge the occurrence of large-scale linguistic changes as a result of the spread of Arabic beyond the Arabian peninsula, which started with the Islamic conquests in the 7th century A.D. These linguistic changes were either accelerated or provoked by the numerous language contact situations in the new empire. There is a rather strong

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6. Miller (1986) reviews several theories concerning the origin of the sedentary MA dialects. For a discussion of the nature of the intertribal cultural language used for pre-Islamic poetry I refer to Zwettler (1978).

divergence between those dialects which emerged in the cities and spread to the surrounding villages, and those which continued to be spoken by tribes which stuck to their bedouin lifestyle, and hence rarely mingled with non-Arab populations. The genetic split between originally sedentary and originally bedouin dialects is still felt to be an important distinction in most MA dialects.

Despite their divergent characteristics, the current sedentary colloquials also contain some quite striking similarities. Accounting for this phenomenon has proved a point of continuing debate. The similarities have been attributed to:

(i)   Innovations already present in a common ancestor, either the ancient colloquial language, or a military *koine* that developed as an intertribal language during the conquests.[7]

(ii)   Natural tendencies of language change (drift), leading to similar developments as a result of certain inherent characteristics of the common ancestor (Classical Arabic, or the closely related ancient colloquial).

(iii)   Interdialectal contact, through which certain characteristics spread from one dialect to others in a wave-like fashion.

(iv)   Pidginization and creolization, later followed by a long process of de-creolization under the influence of Classical Arabic.[8]

It is not possible to review the ins and outs of the whole debate here, but from the amount of controversy in the domain it becomes clear that the linguistic situation is quite complex, and that any attempt to generalize over all the sedentary MA dialects may prove idle. On close reading of the most important studies, it furthermore appears that the leading authors tend to emphasize what they find to be the most important sources for development,

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7. For the discussion of koine hypotheses, see Fück (1950), Ferguson (1959a), and D. Cohen (1970).

8. See Versteegh (1984), and reviews of his work by Goodman (1986), Ferguson (1989) and Owens (1989).

but at the same time acknowledge the possible influence of change mechanisms described by others.

Integrating the best from all approaches, I opt for a flexible working hypothesis, allowing for all kinds of possible influences which need to be determined for each dialect separately. Neither the existence of dialectal differences going back to the pre-Islamic situation, nor the possibility of pidgin and creole stages should be excluded a priori, but must be evaluated against what is known about 'normal' language development, substratal influences, and the history of interdialectal contact situations.

1.2. Chronological classification and inventory of sources

A chronological classification is much easier to make than a genetic one, for as soon as inscriptions or manuscripts have been dated (although this in itself may be difficult enough), we can place them along a time axis. The chronological periods into which we divide this axis depend on linguistic criteria, historical events, and to some extent the type of available sources.

I follow Shivtiel (1991) in his straightforward proposal to distinguish three main periods: Ancient (up to circa A.D. 600), Classical (approximately between A.D. 600-1800), and Modern (approximately from A.D. 1800 to present day).[9] This classification involves the recognition of three *layers* or *strata* of the language for each period. The relevance of these strata will be discussed in section 4.2. Fischer (1972a) distinguishes a preclassical, a classical, and a postclassical stage for (elevated) Classical Arabic, with the classical stage ranging from the second half of the 8th century A.D. until the 10th century. During this period, the Arabic language was the subject of extensive descriptions, which set the standards for 'correct' and 'incorrect' usage.

Everything we know about the Arabic language in the Ancient period is based upon a limited number of inscriptions and on pre-Islamic poems transmitted orally, which were preserved in collections dating from the 10th

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9. Shivtiel (1991: 1442) calls the Classical period *Medieval*, as he uses the term *Classical* where I prefer *elevated* (see section 1.4.2).

century A.D. and later.[10] The best studied objects from the early medieval period are the Qur'ān and the collections of literature concerning the Prophet, of which the earliest manuscripts stem from the 10th century A.D. as well. Other written sources exist in the form of documents on papyrus and paper, fragments of texts on materials such as leather, parchment, linen and wood, and inscriptions in stone or on decorative articles (Hopkins 1984).

From the end of the 8th century A.D. onward, a considerable share of the diverse literature of each period has reached us. Of special interest are the works dedicated to the study of the Arabic language itself. As they are all concerned with the establishment of what is 'right', many of them also contain observed 'wrong' or deviant examples. These purposeful descriptions of erroneous speech, together with unconscious deviations of the norm in non-philological literature, are used for current estimations of the grammar of colloquial dialects at the time.

In the modern period, dialectological descriptions can be based on the analysis of natural conversations. They often include texts written in transcription. To a limited extent, and almost exclusively in Egypt, colloquial speech is nowadays also written in Arabic script for a lively description of dialogues in novels and theatre plays.[11]

1.3. Geographical classification

For dialectologists, the complete geographical description of all synchronical varieties of a language is one of the most important goals. Mainly because of the - fortunately diminishing - lack of interest in the MA dialects by linguists in Arab countries themselves, such a complete survey is as yet far from being accomplished. The results of recent and ongoing projects are promising, however.

Geographical information about earlier stages is limited, and complicated by the fact that the speakers of individual dialects often ranged over quite

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10. For a discussion of the reliability of the pre-Islamic poems as a true reflection of the ancient stage, see for instance Zwettler (1978) and Hopkins (1984: Introduction).

11. An example of a novel with dialogues in colloquial Egyptian Arabic is for instance *εawdat al-rūḥ* by Tawfīq al-Ḥakīm. The novel *laban il-εasfūr* by Yūsuf al-Qaεīd is completely written in colloquial Egyptian Arabic (Woidich, personal communication).

large areas (Rabin 1951: 15). Although some information on which dialect
was spoken where and when can be traced through the interpretation of
historical sources (see also Cadora 1992), most hypotheses about how the
linguistic situation developed are based on indirect evidence.

The area in which Arabic was once spoken (often next to or together
with one or more non-Arabic languages) includes large parts of countries
which nowadays only have minority groups which use a variety of Arabic
as their native language. Dialects of Arabic continue to exist in Khuzistan
(Iran), Uzbekistan (the former Soviet Republic), North West Afghanistan,
South East Turkey and Cyprus. The Arabic dialects of Sicily and the
southern half of the Iberian peninsula have disappeared.

As a result of more recent immigration, Arabic speaking communities
developed for instance in the USA, Canada, Australia, and most European
countries. These communities form new varieties with interesting language
contact phenomena, such as borrowing, code-switching, and language at-
trition (Daher 1988; Nait M'Barek and Sankoff 1988; Nortier 1990;
Rouchdy (ed.) 1992).[12]

Arabic is currently used as the main language in Iraq, Syria, Lebanon,
Egypt, Libya, Tunisia, Algeria, Morocco, and all countries in the Arabian
Peninsula (Saudi Arabia, Jordan, Yemen, South Yemen, Oman, Qatar,
Bahrain, Kuwait, and the United Arab Emirates. It is the native language of
the Arab population of Israel and of the Palestinians of the West Bank and
Gaza. Varieties of Arabic are spoken in the north of Sudan and Mauritania,
and, partly as a second trade language, in Erithrea, Djibouti, Somalia, Chad,
Mali, Niger, Nigeria, and Cameroon. Arabic-based creole varieties have
been reported to occur in South Sudan, Kenya, and Uganda. A variety of
Arabic with a strong Romance influence is the main language in Malta.

The most important geographical distinction is that separating Eastern
and Western dialects. This division corresponds with the boundary between
Libya and Egypt, although, as it also agrees with some fairly prominent
phonological and morphological distinctions, it is more than merely geo-
graphic. Dialects found in one geographical area may be assigned to the
other geographical dialect group on linguistic grounds, especially when this

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12. Similar phenomena have been studied in bilingual communities inside of
countries that have Arabic as their main language (Bentahila and Davies 1983).
Smart (1990) mentions the existence of pidginized varieties of Arabic in the large
communities of guest workers in the Arab Gulf states.

assignment can be confirmed by historical sources (see Woidich 1993). Finer geographical classifications are made by country, region, city, or village.[13] Descriptions of 'the' dialect of a country most often concern the most prestigious variety, usually the one used by educated speakers in the capital city. For many countries more differentiated studies are available which describe the dialect of a region or city, and sometimes even of a special quarter within a city.

1.4. Sociological criteria

1.4.1. Inherent sociological criteria

The sociological criteria used for the classification of Arabic dialects can be subdivided in two kinds. Criteria of the first kind relate to more or less permanent, inherent characteristics of a group of native speakers. Criteria of the second kind are not so much determined by the speaker, but depend on the situation in which a speech act is performed. Like a geographical classification, a division according to inherent sociological criteria can be as fine as is justified by the data. In the case of Arabic, the linguistic consequences of group membership are often significant, and need to be considered.

1.4.1.1. Bedouin versus sedentary dialects

The generally accepted classification of MA dialects as *bedouin* or *sedentary* relates partly to social circumstances of the speakers at earlier stages of the dialects's development, as originally bedouin dialects currently spoken by sedentary populations are often still called bedouin.[14] Like the geographical distinction between Eastern and Western dialects, the op-

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13. A complete geographical classification accounts for several distinguishing features separately, resulting in maps with isoglosses, such as in the dialect atlas of Egypt (Behnstedt and Woidich 1985).

14. According to Rosenhouse (1984), a tentative definition of bedouin versus sedentary dialects should take social, historical, as well as linguistic criteria into consideration.

position between bedouin and sedentary colloquials is associated with a number of discriminating linguistic features. In general, bedouin colloquials are claimed to have more archaic features than sedentary varieties.

Cadora (1989, 1992) argues that bedouin dialects were more innovative than sedentary varieties in the pre-Islamic period. Towards the end of this period, the rate of change began to increase gradually in the sedentary and sedentarizing regions. This tendency was later reinforced in the new cities of the post-Islamic period, where a large number of non-Arabs began to speak Arabic. The accelerated rate of change of the urban sedentary dialects did not occur in the bedouin varieties, which remained comparatively conservative. The bedouin dialects continued their development too, however, as a consequence of gradual changes in lifestyle and contact with adjacent sedentary communities (Cadora 1992).

1.4.1.2. Urban and rural dialects

The sedentary dialects can be further subdivided into urban (city) and rural (village or farmer) dialects. Linguistic differences between these two sub-groups are most prominent in the Western area (Fischer and Jastrow 1980 eds.). Like the bedouin-sedentary opposition, the distinction between urban and rural dialects is not based entirely on the current social status of the speakers, and should thus partly be regarded as a genetic classification. The gradual processes of linguistic adaptation made by communities undergoing ecological change, and thus becoming ruralite rather than bedouinite, or urbanite rather than ruralite, are described in detail by Cadora (1992). Transitions from one class into the other are possible, but require a prolonged contact situation of at least more than one generation.

1.4.1.3. Religious affiliation

Not all inhabitants of the territories which were conquered by the Arabs converted to Islam. Large communities of Christians and Jews were tolerated by and often coexisted with the dominant Islamic culture without losing their own identity. As a result of this combination of close contact with the Arabic language and culture on the one hand and a strong social and religious identity as a minority group on the other, communities of Christians and Jews developed distinct MA dialects different both from each

other and the local Muslim colloquials.[15] Notable linguistic differences are also found in the MA dialects spoken by members of Sunni or Shi'ite Muslim communities, for example in Bahrain (Holes 1983).

Judeao- and Christian Arabic manuscripts from the classical period are particularly interesting, since they show more influence from colloquial speech on the literary standard than the Muslim texts of this period, presumably because Jewish and Christian authors did not suffer from religious pressure to preserve the language of the Qur'ān (Blau 1965).

1.4.1.4.   Other (semi-)permanent characteristics

Several mutually intelligible varieties of a language may coexist within a single community with social parameters determining which variety an individual speaker will use. Within the Arabic language group, factors like gender, age, and social status all have their influence. The effects of variation in gender and age are most obvious on the lexical and phonological level. Differences in social status are discussed in the next section, together with the situation-dependent variation associated with diglossia.

1.4.2.   Situation-dependent criteria

Except for Malta, all countries which have Arabic as their main language are characterized linguistically by a state called *diglossia*.[16] In this diglossic situation, a local MA dialect is used at home and in informal situations, while MSA is reserved for written and formal communication.[17] In

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15. See for instance Blanc (1964), who describes the various MA dialects of Baghdad.

16. Maltese is the only Arabic dialect with the prestige of a complete language, used for both formal and informal purposes. It is written in a standardized script with Roman characters.

17. Ferguson (1959b: 336) defines diglossia as "a relatively stable language situation in which, in addition to the primary dialects of a language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, ... which is learned largely by formal education and is used for most written and formal spoken purposes but is not used by any sector of the community for ordinary conversation".

many regions the linguistic situation is far more complicated, and may be called *tri-* or *polyglossic*. In Morocco, for instance, around one third of the population uses a variety of Berber at home, colloquial Moroccan Arabic in informal communication outside the Berber community, and MSA in written and formal communication. In addition to this, French is also used for educational, formal and cultural purposes.

MSA, contrary to what is expected considering the second adjective in its name, does not conform to a well-defined standard.[18] While MSA conforms relatively close to CA rules, it is more adapted to the needs of modern culture and technology. There are minor differences - particularly in the lexicon - from country to country, but continuous efforts to reduce these differences are being undertaken in order to ensure the linguistic unity of the Arab world.

Studies of the diglossic situation have revealed that both MSA and the MA varieties have different stylistic levels. Depending on criteria such as the social status of the Speaker and Addressee(s), the conversational topic, the formality of the situation and the communicative intention, an appropriate mixture of colloquial and elevated elements is chosen. In speech, the stylistic level may be varied constantly, often without conscious attention of the Speaker or Addressee(s). The different levels can be interpreted as points on a continuum, ranging from the most popular variety - used by the least educated group of Speakers in informal circumstances - to the most elevated variety - used by members of the upper class in formal situations (Kaye 1994).

As the roots of the present diglossia can be traced back to the situation before the foundation of Islam, different *registers* or *strata* may be recognized for each period. Table 1, which is based on Shivtiel (1991: 1441), combines the classifications according to chronological and stylistic criteria.[19]

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18. According to Kaye (1970), MSA represents an ill-defined system. Ditters (1992, Chapter 1) discusses the lack of a definition for MSA, and concludes that MSA is still in the process of standardization.

19. Shivtiel (1991) uses the term *Classical*, but describes the register as *elevated*, capturing both the religious and literary functions of this type of Arabic. I prefer the term *Elevated* as a label which does not evoke the chronological connotation attached to *Classical*.

Table 1. Combined chronological and stylistic classification

Period	Stylistic level		
	Elevated	*Standard*	*Colloquial*
Ancient (up to AD 600)	pre-Islamic literature	inscriptions and various documents mainly quoted by later sources	ancient dialects of the Arabian peninsula
Classical (AD 600-1800)	Qur'ān, Hadith, and Arabic literature (CA)	papyri, Christian and Judeao-Arabic, Andalusian and Siculo-Arabic	dialects of the areas, including dialects of minorities ruled by Muslims
Modern (from AD 1800)	religious context	literature and the media, rarely used orally (MSA)	MA dialects spoken around the Middle East and North Africa

1.5. Linguistic criteria

Linguistic criteria have a pervasive role in all other types of dialectal classification, in that they ultimately determine whether a particular social, historical, or geographic distinction is useful. In the absence of historical evidence, genetic classifications are always based on linguistic analyses. The identification of chronological periods may be motivated by relatively consistent linguistic differences between the accessible data of each period. Although a geographical classification can be established independently, we often see that dialect clusters which are formed on the basis of their linguistic similarity are named according to their geographical location.

The classification of Arabic dialects on the basis of their bedouin or sedentary origin would hardly be interesting if the data did not show corresponding linguistic distinctions. Likewise, finer divisions by city or village, religion, community or gender are only useful to the extent that they are justified by notable differences in lexicon, phonology, morphology, and/or syntax. At the same time, linguistic variation that does not coincide

with variation in at least one of the other criteria tends to be ignored. Some of the most prominent linguistic traits that differentiate varieties of Arabic will be discussed in the next sections.

1.5.1. Lexical criteria

The different varieties of Arabic are all characterized by their own vocabulary. Especially the most common words may be very different from one region to the other. The word 'now', for instance, is translated in MSA by *al-'ān*, in Egyptian Arabic by *dilwa'ti*, and in Moroccan Arabic by *daba*. The verb 'to work' is in MSA ordinarily rendered by ɛamil, in Egyptian Arabic by *'ištaġal*, and in Moroccan Arabic by *xdem*.[20] Similar words may have related, but different meanings in various dialects. The Egyptian Arabic word *bēt* for instance, refers to 'house' or 'home', while the Moroccan Arabic word *bīt* is used for 'room'. Cadora (1976) measures the interdialectal lexical compatibility of several MA dialects.

Some of the arguments for a monogenetic origin of the MA dialects are of a lexical nature. The verbs *ğāb* 'to bring' (a contraction of CA/MSA *ğā'a bi-* 'to come with') and *šāf* 'to see', for instance, occur in the sedentary colloquials, but not in Classical Arabic. Ferguson (1959a) regards this common feature as evidence for his koine hypothesis, whereas others suggest that the two verbs may have occurred in the lexicon of ancient colloquials.

1.5.2. Phonological criteria

The phonological features of different varieties of Arabic have attracted a lot of attention, and are described extensively. Some of the major divisions discussed above coincide with rather consistent phonological differences. The voiced realization of the *qāf*, for instance, is mentioned as the most prominent feature uniting bedouin dialects. Western dialects are characterized (although not exclusively) by a considerable loss of vocalic content.

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20. Verbs are cited as the stem of the suffix (or 'perfect') form, which is identical to the third person masculine singular in MA dialects, and almost identical to this form in CA/MSA.

A number of phonological features are regarded as common innovations which distinguish the MA colloquials from Classical Arabic. Among them are the sound shift $a > i$ in prefixes, the velarization of the /t/ in the cardinal numbers 13-19, the merger of /ḍ/ and /ẓ/, the loss of the glottal stop, and the reduction of short vowels in open syllables.

1.5.3 Morphological criteria

Morphological criteria play an important role in the genetic subclassification of the Semitic languages. Hetzron's genealogical tree (see figure 1) is based on an analysis of the position and form of verbal affixes. The West Semitic branch adopted the suffix-conjugation for the past tense as a common innovation. Central Semitic differs from South Semitic in that it adopted suffixes with a *t* for the first and second person singular in the past tense (*k* in South Semitic), generalized a single vowel for verbal prefixes in one verb, and has a jussive + *u* for the non-past. The further subdivision of Arabo-Canaanite is based on the adoption of -*na* as the feminine plural ending in verbs. Hetzron (1976) argues for a genetic classification based on morphological criteria, since they are: "as arbitrary as possible as far as their substance is concerned (which eliminates spontaneous developments) and as little likely to be borrowed as possible."

The internal subdivisions of Arabic generally coincide with morphological differences. Fleisch (1960: 576) lists eleven morphological features that differentiate the sedentary colloquials from CA and MSA. The most important of these features is the absence of inflectional vowels to indicate case and verbal mood. Among the others are: the absence of the dual in verbs and pronouns, periphrastic expressions of relationship instead of the construct state, no special form for the feminine plural of personal pronouns and verbs, and the loss of the passive formed by a change of vowels.

Most of the finer subdivisions are associated with a distinction of morphological traits as well. A notable difference between the Eastern and Western dialects is found in the conjugation of the first person of the prefix verb set (or the 'imperfect'). With a few minor exceptions, Eastern dialects are close to the CA/MSA pattern with the prefix '*a*- for singular and *ni*- for plural, as in the Egyptian Arabic paradigm represented in table 2. Western dialects show a more regular paradigm, with the prefix *n(e)*- for the first person singular and the plural suffix -*u* for the first person plural, as exemplified by the Moroccan Arabic conjugation. In the colloquials of both the

Eastern and Western groups, preverbal markers indicate further TMA distinctions with the prefix verb set.[21] The form of these preverbal markers is characteristic for individual dialects or dialect groups.

Table 2. The prefix verb set in Egyptian and Moroccan Arabic

		Egyptian	Moroccan
SG	1	*a-ktib*	*ne-kteb*
	2M	*ti-ktib*	*te-kteb*
	2F	*ti-ktib-i*	*t-ketb-i*
	3M	*yi-ktib*	*ye-kteb*
	3F	*ti-ktib*	*te-kteb*
PL	1	*ni-ktib*	*n-ketb-u*
	2	*ti-ktib-u*	*t-ketb-u*
	3	*yi-ktib-u*	*y-ketb-u*

Some morpho-phonological features are so prominent, that they form the basis for a subclassification of MA dialects. Thus varieties of the Mesopotamian area are divided into a *qeltu* and a *gilit* group, named after the realization of the expression 'I said'.

1.5.4. Syntactic criteria

There is a lot of syntactic diversity within the Arabic language group, but syntactic differences have not been investigated and described as much as distinctions in phonology, morphology, and the lexicon (Jastrow 1982: 140). CA and MSA have traditionally been classified as primarily synthetic, in contrast to the MA colloquials in which analytical constructions replaced some of the former synthetic devices. According to Corriente (1971), the

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21. The term *preverbal marker* is used throughout this study to generalize over the various forms that may occur. Due to morphological differences, the more specific term *prefix* may be adequate for some preverbal markers, while others are generally referred to as *proclitics* or *particles*.

structural difference between the old and new types of Arabic has been overestimated by Western scholars, presumably because the presence of nominal case endings and verbal mood inflections suggests a similarity with languages like Latin and Greek, which on closer examination appears to be superficial. Corriente argues that the inflectional endings already had a very low functional yield in Classical Arabic, and that the language could do without them. This argument is supported by the fact that these endings are usually not represented in writing. He furthermore points at the abundance of analytical lexical items in Classical Arabic, and the later trend toward synthetic elaboration of terminology.

The extent to which the MA colloquials are analytic, however, has also been overestimated. Indeed, there are some synthetic devices in MA dialects which do not occur in CA or MSA, such as the enclitic use of the preposition *li-* followed by a pronominal suffix, which is used to indicate the indirect object with trivalent verbs. Together with affixes expressing Negation and Progressive Aspect, the use of this enclitic can lead to the formation of the quite complex and highly synthetic Egyptian Arabic 'word' represented in (1).

(1) *ma-* *b-* *yi-* *dd-* *u-* *ha-* *l-* *hum-* *š*
     NEG- PROG- 3.PL- give- 3.PL- 3.F.SG- to- 3.PL- NEG
     'They are not giving it to them.'

That both the older and the newer types of Arabic are of a rather mixed linguistic structure does not mean that there are no syntactic differences between them. The loss of the inflectional vowels already mentioned led to a basic SVO word order in the MA colloquials (VSO in CA/MSA). The use of serial verbs such as *qaɛad* 'to sit', *qām* 'to stand', and *ǧā'* 'to come' is much more frequent in the MA dialects, and there is a marked tendency to use asyndetic constructions for expressions with a modal meaning (in CA/MSA usually rendered by a construction with the conjunction *'an*).[22]

Despite their remarkable syntactic uniformity in comparison with CA/MSA, there are also notable differences between the MA colloquials, although these have received little attention thus far. Thus Egyptian Arabic differs from other MA dialects in the position of its question words. Where

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22. The syntactic differences mentioned here are enumerated and discussed extensively by Versteegh (1984).

in other MA dialects these words appear in clause-initial position only, in Egyptian Arabic they occur in the position which the questioned constituent would occupy in the corresponding declarative sentence (often at the end of the sentence). Interdialectal differences are also found in the formation of complex sentences, but have not been described systematically.

1.6. The investigation

The present study deals with aspects of verbal expression in a number of genetically more or less closely related varieties of Arabic. For their investigation I consulted grammars, comparative studies, and articles. It is important to realize that many of these sources lack the amount of detail which would be necessary for an independent assessment of all verbal functions. The descriptions of TMA phenomena differ both in quality and theoretical background. The reasonable amount of satisfactory descriptive material which is currently available justifies my decision to use the existing data, rather than collect new material myself. I will base my analyses as much as possible on studies which show a sufficient degree of sensitivity to the nuances involved.

The sources of descriptions and example sentences will always be indicated clearly, including the page numbers where the cited examples are to be found. The transcriptions will sometimes be adapted slightly to make them more homogeneous, or to avoid the representation of phonological details which are irrelevant for the syntactic level of analysis in the present investigation. To make the work accessible to general linguists who are unfamiliar with Arabic, all examples will be provided with glosses and translations in English.[23] Where my personal analysis differs from the interpretation of the original author(s), this will always be mentioned as such.

The available material will be represented selectively, to illustrate the basic characteristics as well as some rare phenomena associated with verbal expression. I will not attempt to present a complete and systematic account of the 'state of the art'.[24] Most of the analyses in this study are explorative

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23. This is in contrast to the orientalist tradition, in which most examples are given without glosses, sometimes also without translations.
24. See Eksell (1995: 67) for a recent survey of syntactic studies with special reference to the verbal system.

in nature, and will have to be investigated further in field-work and corpus studies.

Regarding the genetic relationship between CA/MSA and the MA dialects, the following scenario will be assumed as a working hypothesis (see section 1.1.2.2). In the period prior to the rise of Islam, a dialect continuum existed on the Arabian peninsula. Intertribal communication was accomplished by a *lingua franca*, which had an elevated archaic variant for cultural purposes and one or more less standardized varieties for common interaction. The contemporary MA dialects are either direct descendants of the original Arabian dialects, or developments from a common variant of the lingua franca. For varieties of MA spoken on the Arabian peninsula and bedouin dialects elsewhere the first option is the most likely, for other MA dialects I consider an intermediate koine-stage to be a preferable explanation. None of the MA colloquial varieties are thus regarded as direct descendants from Classical Arabic, but there is a close genetic relationship assumed to exist between CA/MSA and the MA dialects, since they ultimately originated from varieties of the same language continuum.

Apart from the genetic relationship, most MA dialects have remained and still are in a close language contact situation with CA/MSA and other MA colloquials. This situation affects the grammar of the MA dialects and MSA in obvious as well as subtle ways. For most varieties, rather intensive language contact situations also exist with languages outside the Arabic group. In a typologically oriented study it is impossible to do justice to the complexity of all these influences. Two very general premises will serve as guidelines for the interpretation of linguistic variation:

(i)   The structure of CA reflects an older developmental stage than that of MSA.

(ii)   As the result of differences in the amount of language contact, some MA dialects have developed more rapidly than others.

These guidelines allow for (tentative) diachronical interpretations concerning the direction of linguistic change.[25]

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25. With regard to the second premise, I refer to Marchese (1979: Chapter 1) for arguments in support of a possible diachronical interpretation of comparative synchronic data.

In this chapter I have sketched a broad outline of the field of Arabic linguistics, without paying much attention to the grammatical description of the language. A comprehensive treatment of the phonology, morphology and syntax of different varieties can be found in Holes (1995). The morphological and syntactic characteristics related to verbal expression will be introduced in the relevant chapters.

2. The theoretical framework

2.0.   Introduction

The theory of functional grammar on which this study is based is that of
Simon C. Dik as first described in his 1978 book, *Functional Grammar*.
Further developments of the theory derived from applied and typological
studies by Dik and others are incorporated in Dik's *Theory of Functional
Grammar, Part 1* (1989a). A critical discussion of the functional approach
advocated by Dik is found in Siewierska (1991).

This chapter will start with an outline of the FG approach to grammar
(section 2.1). Section 2.2 provides a chronological discussion of
developments in the treatment of TMA phenomena before the adoption of
Hengeveld's layered clause structure in the 1989 version of the theory
(Hengeveld 1989, Dik 1989a). The build-up of the layered clause structure
will be explained in section 2.3. Later FG publications on TMA phenomena
all take the 1989 model as their starting point. These contributions will be
discussed and evaluated in chapter 3.

2.1. The organization of FG

2.1.1. Predicates and terms

Within FG, all content elements are represented as predicates in the lexicon.
Each lexical entry specifies the semantic, pragmatic, morphological and
syntactic information necessary for the use of a particular predicate in a
well-formed expression. Part of this information is provided by a *predicate
frame*, which indicates the number and type of arguments associated with
the predicate. For the English verb *give*, the predicate frame takes the
following format:

(1) $give_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ $(x_3)_{Rec}$

The syntactic category of *give* in (1) is specified as *Verbal* (V). Predicates can also be classified as *Nominal* (N), *Adjectival* (A), or *Adverbial* (Adv).[26] *give*$_V$ is a three-place (trivalent) predicate. The first argument has the semantic function of *Agent* (Ag), the second argument *Goal* (Go), and the third, *Recipient* (Rec).[27] Most nominal and adjectival predicates have a single argument position with the semantic function Zero (ø). This indicates that the predicate assigns a property or quality to the inserted argument. An example of a nominal predicate with its frame is given in (2):

(2) *man*$_N$ $(x_i)_\emptyset$
     [the property of being a man is assigned to x_i]

A predicate frame in which all argument positions are filled with terms is called a *predication*. *Terms* are expressions which can be used to refer to entities in some real or imaginary world. In FG, only basic terms like personal pronouns and proper nouns are represented as separate entries in the lexicon. All other terms are constructed according to the following schema:

(3) $(\Omega x_i: \text{pred}_1(x_i): \text{pred}_2(x_i): ... : \text{pred}_n(x_i))$

In this schema, the term variable x_i symbolizes the intended referent. Ω indicates a position for term operators representing grammatically coded information such as (in)definiteness, number, and deictic distinctions. Lexically expressed information is represented by one or more predicates. An example of a term with its corresponding term structure is:

(4) a. *an old man*
     b. $(i1x_i: man_N(x_i)_\emptyset: old_A(x_i)_\emptyset)$
        [indefinite, single entity x_i, such that x_i is a man, and x_i is old]

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26. Dik (1989a: 69) does not mention *Adverbial* as a separate syntactic category for predicates. See Hengeveld (1992b: Chapter 4) for arguments in favour of the recognition of adverbial predicates as a fourth category, and a classification of languages according to the extent in which the four categories are represented separately.

27. See section 2.1.3 for an explanation of these terms.

Here, 'i' stands for *indefinite*, realized in the expression by the indefinite article *an* (instead of *the*). The number '1' indicates *singular*, important for the realization of *an* instead of ø and *man* instead of *men*. By convention, the first restrictor or head of the term (usually a nominal predicate) is represented first in the term structure. Thus, although *man* is the last word in (4a), it appears before the second restrictor *old* in (4b).

Terms may contain embedded predications, as in (5), where the third restrictor is a relative phrase:

(5)   a. *the wild animals that live in the zoo*
      b. (d pl x_i: *animal*$_N$(x_i)$_\theta$: *wild*$_A$(x_i)$_\theta$: [*live*$_V$(x_i)$_{Po}$ (d1x_j: *zoo*$_N$(x_j)$_\theta$)$_{Loc}$])

In this example, 'd' is used to indicate *definiteness*, and 'pl' *plurality*. In addition to the first (nominal) and second (adjectival) restrictor, a verbal predication with an open position for x_i is used to describe an additional property of the intended set of referents.[28]

Terms, often themselves construed by one or more predicates, are inserted in the open argument positions of predicate frames to form *nuclear predications*, which refer to real or imaginary *States of Affairs* (SoAs). These nuclear predications form the basis for *underlying clause structures*, which are eventually mapped onto linguistic expressions through *expression rules*.

2.1.2.   Predicate formation

Predicates are *basic* or *derived*. Basic predicates are listed in the lexicon. Derived predicates are built from other (basic or derived) predicates or terms by means of productive rules of *predicate formation*. Predicate formation rules are used to account for the systematic relationship between pairs such as *write*$_V$-*writer*$_N$, *paint*$_V$-*painter*$_N$, or *hard*$_A$-*harden*$_V$, *thick*$_A$-*thicken*$_V$. Most predicate formation rules apply to a restricted set of input predicates. For the type of nominal predicate formation examplified by *write*$_V$-*writer*$_N$ and *paint*$_V$-*painter*$_N$, the input predicate must be a verb; for

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28. Representation (5b) is simplified and does not specify the e_i-variable and the positions for π-operators of the relative phrase.

that examplified by *hard*_A-*harden*_V and *thick*_A-*thicken*_V it must be an adjective.

Predicate formation rules usually affect changes in the form of the input predicate and in the structure of its predicate frame. Effects on the structure of the predicate frame may concern the *syntactic category* of the predicate (a verbal predicate may for instance become nominal, as in the examples with the suffix *-(e)r* given above), its *quantitative valency* (i.e. the number of arguments), and its *qualitative* valency (the semantic functions of its arguments). Some predicate formation rules do not affect the structure of the predicate frame. Diminutive noun formation in Dutch, for instance, operates on nominal predicates and results in derived diminutive nominal predicates (Dik 1980b: 29). In De Groot's inventory of types of predicate formation (De Groot 1989: 145) this type is classified as 'semantic modification of the predicate'. Derived predicates may themselves form the input of predicate formation rules, leading to semantically complex predicates.

Term structures can be turned into predicates according to the following rule of Term-Predicate Formation (Dik 1989a: 173):

TERM-PREDICATE FORMATION
(6)   input   : any term $(t)_{[sf]}$
                 where [sf] indicates an optional semantic function
       output : $\{(t)_{[sf]}\}\ (x_i)_\theta$

This general format is used to represent the formation of nonverbal predicates like $\{(d1x_i:\ winner_N(x_i))\}\ (x_i)_\theta$ in *John is the winner*, and $\{d1x_i: garden_N\ (x_i))_{Loc}\}\ (x_i)_\theta$ in *The chair is in the garden*. For further details on nonverbal predication I refer to Dik (1989a: Chapter 8). Examples of verbal predicate formation rules will be given in chapter 4.

2.1.3.   The underlying clause structure

Predicates and terms form the foundation of most expressions. After term insertion is applied to all open positions in a predicate frame, the resulting structure is called a *nuclear predication*. The nuclear predication is extended with positions for predicate operators and satellites to form an underlying clause structure. *Predicate operators* specify categories such as Tense, Aspect, and Negation. These will be discussed in section 2.2. *Satellites* supply

additional lexical information relevant to the SoA described in the nuclear predication.

Satellites are to be distinguished from argument terms on the basis of their relationship to the predicate: arguments occupy an obligatory position required by the semantics of the predicate; satellites provide for further optional information concerning the nuclear predication as a whole.[29] Both arguments and satellites are specified for *semantic functions* that, among other things, co-determine the formal expression of terms. Possible semantic functions of first argument (A^1) terms are:

- *Agent* (Ag)   The entity controlling an action, as in:
                    John(Ag) *was reading a book.*

- *Positioner* (Po)   The entity controlling a position, as in:
                    John(Po) *kept his money in an old sock.*

- *Force* (Fo)   The non-controlling entity instigating a process, as in:
                    The earthquake(Fo) *moved the rock.*

- *Processed* (Proc)   The entity undergoing a process, as in:
                    The tree (Proc) *fell into the river.*

- *Zero* (ø)   The entity primarily involved in a state, as in:
                    The cup(ø) *was on the table.*

The prototypical semantic function of second argument (A^2) terms is:

- *Goal* (Go)   The entity affected or effected by the operation of the first argument, such as *a book*, *his money*, and *the rock* in the above sentences.

Other semantic functions of A^2 and A^3 argument terms are *Recipient* (Rec), *Location* (Loc), *Direction* (Dir), *Beneficiary* (Ben), *Source* (So), and *Reference* (Ref). Satellites may have one of the semantic functions mentioned for arguments. Additional semantic functions for satellites

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29. Some problems with respect to the argument/satellite opposition are discussed by Siewierska (1991: 55).

include *Instrument, Company, Manner, Purpose,* and *Condition.* The semantic functions of argument or satellite terms do not necessarily reflect the role of their referents in the described real-world situation. In the sentence *John received the money,* for instance, the semantic function assigned to John is not Recipient (although John does receive the money in the described real-world situation), but Processed (see Dik 1989a: 105). I refer to Siewierska (1991: 62-72) for a comparison of the typology of semantic functions in FG with other theories based on semantic relations.

FG distinguishes two other types of function in addition to the semantic functions. The *syntactic* functions *Subject* and *Object* indicate the primary and secondary perspective from which a SoA is presented. These syntactic functions are represented in the underlying clause structure to account for passive constructions and so-called *dative shift.* The *pragmatic* functions *Topic* and *Focus* determine the informational status of parts of a linguistic expression in a given context. Syntactic and pragmatic functions do not concern the verbal system directly and will not be discussed extensively here. They do provide essential information for the expression rules, however, and may co-determine the ultimate form of the verb or verbal complex.

Underlying clause structures are mapped onto linguistic expressions through the intermediation of different types of morpho-syntactic μ-*operators* (Dik 1989a: 300). *Primary* μ-operators are present in the underlying clause structure as Ω- or π-operators, or in the form of semantic, syntactic or pragmatic functions. They may affect the form of the expression directly, but also indirectly through *auxiliary* μ-operators which themselves do not occur in the underlying clause structure. Auxiliary μ-operators are introduced by expression rules in order to trigger later expression rules. They express a variety of semantic relations and do not have a unified semantic interpretation. As examples of the expression of auxiliary μ-operators Dik (1989a: 302) mentions case distinctions such as *Accusative,* and verbal categories with multiple functions, such as the *Infinitive* and *Subjunctive* in many languages. An advantage of the recognition of auxiliary μ-operators is that the formal aspects of a particular operation, for instance of the accusative inflection in Latin, need not be specified for each primary μ-operator separately.

As a third type of μ-operators Dik mentions *contextual μ-operators.* These exert their influence from within the expression component. Contextual μ-operators are used primarily to capture agreement relations.

2.2. Tense, Mood and Aspect in FG before 1989

2.2.1. Tense and Aspect

2.2.1.1. Predicate operators

Dik 1978 hardly mentions the expression of TMA categories. In 1980, however, he introduces the predicate operators τ and α to account for Tense and Aspect distinctions respectively (Dik 1980a: 65). In the FG description of a sample grammar of seventeen English sentences, Dik organizes the expression of the verbal complex so that the aspectual operator is handled by the expression rules first. This leads to a modification of the lexical predicate and/or the introduction of one of the auxiliary verbs *be* and *have*. The resulting (complex) form is subsequently modified by the temporal operator. This ordering of operators is an important tool for getting the correct expression for verbal complexes.

The Greek symbols τ and α are later replaced by π (for predicate operators) (Dik 1980b, Chapter 4). The basic structure of the predication is rendered:

(7) π pred (x_1) (x_2) ... (x_n)

in which π includes operators for Tense and Aspect, as well as Mood and Negation. The structure in (7) can be extended with adverbial satellites indicating for instance Time, Duration, Reason, etc. Complex predications are handled by the same basic structure, in which one of the arguments itself consists of a predication with its own predicate operators.

For a further elaboration on the status of predicate operators we find in Dik (1983: 142, footnote 2): "Predicate operators are abstract elements in terms of which the verbal system of a language can be described. They do not in themselves provide a semantic interpretation of such a system, but may be assumed to each have their own specific contribution to the final semantic content of the expression." For an example of rules for the semantic interpretation of the Tense-Aspect system of French Dik refers to Vet (1980). Dik (1983: 127) explicitly states that his suggested treatment of the verbal complex in English accounts for the distributional properties of interactions between Tense, Aspect, and Passive, but that it does not explain them. No definitions of Past Tense, Perfect and Progressive Aspect are given.

2.2.1.2. The analogy of predications and terms

Vet (1986) proposes to handle predications and predicate operators in the same way as terms and term operators are treated in FG. He introduces a variable e_i, symbolizing a time-space region characterized by a predication as first restrictor. Possible further restrictors are for instance adverbial satellites. This leads to the following general schema for tensed predications (T-OP stands for 'temporal operator'):

(8)   T-OP e_i : PREDICATION (e_i) (: ADVERBIAL (e_i))

Vet's motivation for the analogous treatment of predicate and term operators is based on their shared pragmatic function, by which they relate elements of the utterance to the information present in the *Domain of Discourse*. The Domain of Discourse is described as a dynamic component of the grammar which contains at least the following three kinds of information (Vet 1986:7):

(i)   General knowledge about referents existing in the world.

(ii)   Specific knowledge about the speech situation (the location and time of utterance, and the identity of the Speaker and the Addressee(s)).

(iii)   Specific knowledge based on the preceding conversation or text.

The value of an operator can now be understood as the instruction to locate the time-space region (e_i) as anterior to, overlapping with, or posterior to the time of the utterance, or some other time-space region that can be identified in the Domain of Discourse.

2.2.1.3. Vet's account of the tenses in French

Vet (1986: 5) illustrates his proposal with a discussion of the tenses in French. Unfortunately, he does not give a general definition of Tense, and does not discuss Aspect at all. Aspectual distinctions such as Prospective ("Near Future") and Perfect Aspect are interpreted in terms of their temporal implications only. Vet thus recognizes two temporal subsystems each of which have four similar subdivisions (see table 3).

Table 3. The classification of tenses in French (Vet 1986)

	Present	Past
Perfect	*il a bu* 'he has drunk'	*il avait bu* 'he had drunk'
Present	*il boit* 'he drinks'	*il buvait* 'he was drinking'
Near Future	*il va boire* 'he is going to drink'	*il allait boire* 'he was going to drink'
Future	*il boira* 'he will drink'	*il boirait* 'he would drink'

The choice between the two different subsystems is accounted for by the *superoperators* Past and Present. The further subdivision is represented by operators with the values Perfect, Present, Near Future, and Future. Each of the tenses in table 3 is thus represented by two hierarchically ordered operator values in the underlying predication. The first subsystem takes e_0 as its central reference point, and is subdivided into Present Perfect, Present, Near Future, and Future. The second subsystem is centred around some already known point or interval which lies before e_0, and is subdivided into Pluperfect (*il avait bu*), *Imparfait* 'Imperfect' (*il buvait*), Near Future of the Past (*il allait boire*), and the Future of the Past (*il boirait*).

Vet (1986: 6) also mentions the *Passé Simple* 'Simple Past' (*il but*) and the Passé Antérieur 'Anterior Past' (*il eut bu*) as two additional tenses which do not fit very well in his system. He argues that the *Passé Simple* - contrary to the *Imparfait* - has the specific function of introducing events which take place in a new, not already known space-time region. He does not discuss the *Passé Antérieur* in any detail, and it is not clear how the function of the *Passé Simple* is incorporated into the system of operators.[30] Vet's account of the tenses in French suffers from a lack of differentiation between temporal and aspectual values, but contributes to the development

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30. In a later article Vet suggests a description of the French tenses by a three-fold distinction between two types of temporal operators and an aspectual operator (Vet 1992). This proposal will be treated in section 3.2.3.2.

of FG theory through its recognition of scope relations in the ordering of operators.

2.2.1.4. Dik's definition of Tense, Aspect, and Aktionsart

Dik goes into the matter of defining Tense and Aspect in his article on copula auxiliarization (1987). He makes a principled division between *Aktionsart* and *Aspect* by restricting the latter to grammatically coded distinctions. The term Aktionsart is used to denote the internal temporal properties of a SoA as they are determined by the lexical predicate in combination with its arguments.[31] Some of these internal properties are important for the interpretation of Tense and Aspect distinctions. Dik (1987: 60) recognizes three distinct types of Aspect:

(i)   (Im)perfective Aspect.

(ii)   Phasal Aspect: (Immediate) Prospective, Ingressive, Progressive, Egressive, and (Immediate) Perfect.

(iii) Quantificational Aspect: Habitual, Continuous, Semelfactive, Iterative, Frequentative.

The aspectual values are defined more or less as in Comrie (1976). The opposition between Perfective and Imperfective Aspect depends on the conceptualization of the SoA. Perfective Aspect indicates that the SoA is conceived of as one single whole, regardless of its internal complexity. Imperfective Aspect presents the SoA from an inside point of view, as being in progress. Phasal Aspect distinctions picture the SoA as (i) about to occur (Prospective Aspect), (ii) at the beginning of its occurrence (Ingressive Aspect), (iii) in the middle of its occurrence (Progressive Aspect), (iv) at the end of its occurrence (Egressive Aspect), or (v) having occurred, while the continuing influence of this occurrence is still present (Perfect Aspect). Quantificational Aspect distinctions specify the number of occurrences of identical SoAs. The possible combinations of different aspectual values are

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31. The relevant SoA-features will be described in sections 4.2.1 and 6.2.2.1.

language specific, and must be indicated in the grammatical organization of a language.

Tense distinctions are described as primarily deictic, in that they locate the SoA on the temporal axis in relation to the moment of speech (S) or to a reference point (R).[32] The cross-linguistically rather rare distinctions used to indicate the relative temporal distance between the SoA and S or R, such as Remote and Recent Past, are regarded as secondary. Dik (1987: 75) devotes special attention to the difference between Tense and Phasal Aspect. In his view, Phasal Aspect forms are semantically complex in that they typically involve two meaning components. The difference in meaning between Past Tense and Perfect Aspect is for instance spelled out as:

(i) Past Tense: *John was a rich man.*
     It is stated at S that
     - The SoA 'John is a rich man' obtained before S.

(ii) Perfect Aspect: *John has been a rich man.*
      It is stated at S that
      - John is such at S that
      - The SoA 'John is a rich man' obtained before S.

The use of the present perfect conveys the idea that the past state of being rich still influences John's present condition, for instance in his appearance or behaviour. The twofold meaning of Phasal Aspect forms makes them liable to get (partially) reinterpreted as Tense forms.[33]

2.2.2. Mood

2.2.2.1. Goossens's analysis of English modal verbs

An important contribution to the discussion of Mood and Modality in the theory of Functional Grammar has been made by Goossens (1985a, 1985b,

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32. The reference point R may be indicated by another SoA, and adverbial constituent, or the extra-linguistic context.

33. See Dik (1987: 73) for the description of an explanatory scenario for historical changes in the Tense/Aspect system.

1987a, and 1987b) in a number of articles dedicated to the analysis of modal verbs in English and their treatment in FG.[34] In 1985a he argues for a differentiated approach in which some modal verbs are treated as the direct expression of predicate operators, others as independent predicates, and yet others as semi-auxiliaries introduced through predicate formation rules. As possible modal values which require predicate operator status he introduces Conditional for the conditional tenses (*should/would*), and Subjunctive for the use of *should* in embedded phrases which report directive statements and the use of *may/might* in purpose phrases.

Two later articles (Goossens 1985b, 1987b) focus on the diachronic development of modals in Old English, and show a progressively more detailed analysis in FG terms. Some of Goossens's conclusions are:

(i)   A three-point scale (independent predicate > predicate formation > predicate operator) is not refined enough to describe the details of the grammaticalization phenomena encountered.

(ii)   A crucial argument in deciding about the status of a modal verb is whether it brings along its own argument structure (in which case it is analyzed as an independent predicate) or whether a combining predicate imposes its argument structure on the whole combination (in which case it is treated under predicate formation).

(iii) In order to receive predicate operator status a given modal verb should be used in specific grammatical functions, such as the expression of Tense or the marking of certain types of embedded phrases, in addition to the fact that it should not have an argument structure of its own.

2.2.2.2.   Goossens's distinction between situations and events

Goossens (1985a: 216) points to the necessity of distinguishing formally between what he calls *situations* (the domain of Epistemic Modality) and

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34. In support of his claim that FG should account for modality Goossens mentions previous studies on the subject by Bolkestein (1980), De Schutter and Nuyts (1983), and Vet (1981).

events (the domain of Deontic/Facultative Modality). The class *events* contains non-Perfect and non-Progressive Actions and Positions that preferably combine with non-epistemic modals. *Situations* are concerned with 'what is the case', are uncontrolled, and combine as a rule with epistemic modals. They include States and Processes as well as Perfect and Progressive SoAs (Goossens 1987a: 35). As a separate class of basic SoA-types Goossens identifies *cognizant states*, which are described by non-Perfect and non-Progressive occurrences of predicates like *know, understand, see, hear*, etc. Cognizant states freely combine with both epistemic and non-epistemic modals. The predicate operator Habitual (or Repetitive) has the effect of making a basic SoA compatible with both epistemic and non-epistemic modals.

2.2.2.3. The representation of scope differences in modality

Hengeveld (1987) suggests dealing with different types of modality in terms of scope differences. He introduces a clause structure in which a predication is inserted into an *abstract illocutionary predicate frame*, which can be DECL(arative), INT(errogative), or IMP(erative).[35] The inserted predication is provided with a content variable (X_i) and is conceived of as a *third order entity*, distinct from the *second order entity* designated by the predication at the layer of the narrated event.[36] In a footnote Hengeveld (1987: 65) refers to the sentence variable (e_i) proposed in Vet (1986), and states that this variable would represent the narrated event in his clause structure.

Hengeveld distinguishes three types of Modality: Inherent, Objective, and Epistemological. *Inherent Modality* is characterized as SoA-internal, and is usually lexically expressed by the (derived) predicate frame. The main inherent modal distinctions are concerned with ability, volition, obligation

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35. Hengeveld (1987) presents his approach as a slight modification of Dik's treatment of Basic Illocution in terms of illocutionary operators.

36. The distinction of entities of different order is based on Lyons (1977: 442-447), who describes *first order entities* as objects, which can be located in space; *second order entities* as situations, which can be located in space and time and can be evaluated in terms of reality, and *third order entities* as propositions, which can be located neither in space nor time and are evaluated in terms of truth. Hengeveld (1992b: 8) later also recognizes *fourth order entities*, representing the product of a speech act.

or permission. *Objective Modality* relates to the predication at the level of the narrated event and concerns the Speaker's evaluation with respect to the actuality status of a SoA. Objective modal distinctions can be based on epistemic or deontic knowledge. *Epistemological Modality* is concerned with the propositional content of the speech event and is subdivided into

(i)   Subjective Epistemic: Expressing personal commitment to the truth of X_i.

(ii) Subjective Boulomaic: Expressing a personal desire for X_i to be true.

(iii) Inferential: X_i is characterized as inferred from evidence.

(iv) Quotative: X_i is reported from another source.

(v)   Experiential X_i is characterized as experienced by the Speaker.

Within the clause structure, Hengeveld (1987: 56) identifies positions for term, predicate, predication, and illocution operators. Predicate operators account for the grammatical expression of Objective Modality and have scope over the predicate frame. Predication operators represent the grammatical expression of Epistemological Modality types, and have the predication in their scope. Illocution operators capture grammatical ways of mitigating or reinforcing the Basic Illocution as determined by the abstract illocutionary predicate. Hengeveld (1987) substantiates his proposal with examples from Spanish. Other categories like Tense and Aspect - also expressed by predicate operators in FG - are not involved in this first outline of a layered clause structure.

2.2.2.4.   The development of Hengeveld's clause structure

In a second article dedicated to the description of Illocution, Mood and Modality in a Functional Grammar of Spanish, Hengeveld (1988) goes deeper into the exact definition of the three terms. As far as it is coded in the clause structure, Illocution is explicitly limited to elements which are

linguistically expressed, thus leaving the intention of the Speaker as well as the interpretation of the Addressee outside of the model of clause structure.

Speech events are represented (Hengeveld 1988: 242) as:[37]

(9) $(E_i : [ILL_E (Sp) (Ad) (X_i : [proposition] (X_i))] (E_i))$

Analogous to a predicate frame, which specifies the relation between its arguments and acts as a restrictor of the SoA variable e_i, the abstract illocutionary frame specifies the relation between the Speaker (Sp), the Addressee (Ad), and the content of the utterance (X_i). The clause as a whole functions as a restrictor of the utterance variable E_i.

Apart from term operators, four positions for operators are now indicated (1988: 244). Within the clause structure, the position and functions of illocution operators remain the same as in Hengeveld (1987). The operators placed before the content variable X_i - used to express types of Epistemological Modality - are now called proposition operators. The operators expressing Objective Modality types are called predication operators, and positioned before the SoA variable e_i. The predicate operators before the predicate frame are used to capture aspectual distinctions.[38] The operator positions are indicated in the following model of clause structure (Hengeveld 1988: 244):

(10) $E_i : [\pi_4 ILL\ (Sp)\ (Ad)\ (\pi_3 X_i : [proposition]\ (X_i))]\ (E_i)$

$$(\pi_2 e_i : [\pi_1\ pred_\beta\ (x_1)\ (x_2)...(x_n)]\ (e_i))$$

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37. Whereas Hengeveld uses S and A, I use Sp and Ad to indicate the Speaker and Addressee(s), to avoid confusion with the conventional S for the moment of speech, and the A for Argument.

38. The ordering of the different types of operator is partly inspired by the work of Bybee (1985) and Foley and Van Valin (1984).

2.3. The 1989 model of clause structure

2.3.1. Hengeveld's 'Layers and operators'

2.3.1.1. General outline of the model

The outline of the layered clause structure given in Hengeveld (1989) is essentially the same . as that presented in (10) (Hengeveld 1988). Hengeveld's 1989 article presents a more thorough discussion of the different layers, however, and incorporates the treatment of Tense, Aspect, and Polarity in addition to the already established treatment of Mood (Hengeveld 1987, 1988). The general functions of the four operator types are defined as follows (Hengeveld 1989: 131):

(i)   *Predicate operators* (π_1) specify additional properties of the set of SoAs designated by a bare predication.

(ii)   *Predication operators* (π_2) locate the SoAs designated by a predication in a real or imaginary world and thus restrict the set of potential referents of the predication to the external situation(s) the Speaker has in mind.

(iii) *Proposition operators* (π_3) specify the Speaker's attitude towards the (truth of) the proposition put forward for consideration.

(iv)   *Illocution operators* (π_4) modify the force of the Basic Illocution.

The functions of the variables, restrictors, and operators are summarized in table 4 and 5.

Table 4. Variables and restrictors (Hengeveld 1989: 130)

Variable	Restrictor	Clause unit	Reference
x	$Pred_N$	$(x_1: Pred_N(x_i))$	Individual
e	Predication	$(e_i: [Predication](e_i))$	State of Affairs
X	Proposition	$(X_i: [Proposition](X_i))$	Potential fact
E	Clause	$(E_i: [Clause](E_i))$	Speech Act

Table 5. Classification of operators (Hengeveld 1989: 132)

Semantic domain	Grammatical category
Predicate operators	
Internal temporal constituency	Imperfective/Perfective
Presence or absence of property or	Phasal Aspect
relation expressed by predicate	Predicate Negation
Predication operators	
Time of occurrence	Tense
Frequency of occurrence	Quantificational Aspect
Actuality of occurrence	Objective Mood/Polarity
Proposition operators	
Source of proposition	Evidential Mood
Commitment to proposition	Subjective Mood
Illocution operators	
Weakening strategy	Mitigating Mode
Strengthening strategy	Reinforcing Mode

2.3.1.2.   Some implications of Hengeveld's model

Hengeveld (1989: 141) formulates a number of hypotheses related to the hierarchical structure of the clause. The first hypothesis concerns the order in which operators of the different layers are expressed. Inspired by the work of Bybee (1985) and Foley and Van Valin (1984), Hengeveld formulates the preferred relative order of operators as $\pi_4\ \pi_3\ \pi_2\ \pi_1$ pred$_\beta$, or pred$_\beta\ \pi_1\ \pi_2\ \pi_3\ \pi_4$ (with variants π_4 pred$_\beta\ \pi_1\ \pi_2\ \pi_3$, $\pi_4\ \pi_2$ pred$_\beta\ \pi_1\ \pi_3$, and π_3 $\pi_2\ \pi_1$ pred$_\beta\ \pi_4$). Operator values associated with lower layers are thus expected to be expressed closer to the verb stem than operator values of higher layers.

Hengeveld's second hypothesis reflects the universally attested direction of diachronic developments in TMA categories, in that it predicts a tendency for developments in the field of operators to follow the direction $\pi_1 > \pi_2 > \pi_3 > \pi_4$.[39]

The third and fourth hypotheses both concern selection restrictions, which a higher operator (π_n) may impose on the next lower operator (π_{n-1}) (Hengeveld 1989: 142). Hengeveld (1989: 144) assumes accordingly that operators are specified most economically in the order $\pi_4 > \pi_3 > \pi_2 > \pi_1$.

Hengeveld's fifth hypothesis postulates that subordinate constructions can be classified according to the highest layer they contain. In complement constructions the matrix predicate determines what kind of subordinate construction it may dominate. A verb like *say*$_V$, for instance, takes an utterance (E_i) as its Goal argument, while the verb *know*$_V$ requires a proposition (X_i). A subordinate construction cannot contain a layer of a certain level without at the same time containing all lower layers (Hengeveld 1989: 145). All operators associated with the layers which a subordinate construction contains can be expressed within that subordinate construction.

The sixth hypothesis predicts that operators with higher scope may affect the expression of operators with lower scope. Thus, the expression of operators in a complement construction may be influenced by operators of the matrix clause, leading for instance to 'sequence of tenses' rules.

Adverbial satellites are treated as a special kind of subordinate constructions. Like complements, satellites can be classified according to their internal structure. Following Hengeveld (1989: 150), Reasons are third order

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39. For this claim Hengeveld also refers to the work of Bybee (1985) and Foley and Van Valin (1984).

entities and should be represented as propositions, whereas Causes can be analyzed as second order entities, represented as predications. Disregarding their internal structure, satellites can be classified according to the layer to which they apply.

Hengeveld recognizes five categories for satellites. Four of the satellite categories correspond to the layers adopted for operators, in that the satellites relating to a layer capture the lexical means for the expression of functions grammatically expressed by the operators. The fifth category consists of clause satellites, "through which the Speaker locates the speech act designated by a clause within the context of discourse and thus restricts the set of potential perlocutions of the clause" (Hengeveld 1989:151).

2.3.2. Dik's 'Theory of Functional Grammar'

2.3.2.1. Differences between Dik and Hengeveld

In 1989 Dik presents a new version of the theory of FG in which the layered clause structure is fully integrated. Dik (1989a) deviates from the proposal in Hengeveld (1989) in several ways:

(i)   Dik does not mention σ_5-satellites.

(ii)   Dik's π_4-operators are represented before the E_i and include operators that specify the *Basic Illocution* of the utterance, whereas Hengeveld specifies the Basic Illocution by an abstract illocutionary predicate.

(iii) Dik introduces a predicate variable f_i.

(iv)   Dik distinguishes *Internal* (π_1) and *External* (π_2) Phasal Aspect.

These four differences between Dik (1989a) and Hengeveld (1989) are discussed in the next chapter.

2.3.2.2. Dik's classification of Tense, Mood and Aspect

Dik (1989a: 186) defines four types of Aspectuality, of which the first is inherent to the type of SoA. The other three correspond to the three

aspectual subsystems described in Dik (1987) (see section 2.2.1.4). Like Hengeveld (1989), Dik views the Perfective/Imperfective opposition as determined by operators of the π_1 layer. Unlike Hengeveld, Dik differentiates between Internal and External Phasal Aspects, and argues that the Internal-Phasal-Aspect values Ingressive, Progressive, and Egressive affect the nature of the described SoA more directly and may thus be the expression of π_1-operators.[40] The External-Phasal-Aspect values (Immediate) Prospective and (Recent) Perfect are tentatively treated as the expression of π_2-operators. Dik's motivation for this classification is based on the observation that External Phasal Aspect does not affect the internal constitution of the SoA.

Dik (1989a) describes Quantificational Aspect distinctions as relating to:

(i)   Habit (Habitual Aspect).

(ii)   Frequency (Semelfactive, Iterative, Frequentative, and Distributive Aspect).

(iii) Continuity (Continuative Aspect).

(iv)   Intensity.

All Quantificational Aspect operators are taken to belong to the π_2-layer, since they leave the inner structure of the SoA intact.

Dik (1989a) defines Tense operators in a straightforward manner. They serve to locate the SoA on the time axis in relation to some reference point R. No principled distinction between Absolute Tense (R = S) and Relative Tense (R ≠ S) is made. Tense operators describe a SoA in terms of its anteriority, posteriority, or simultaneity with respect to R. In case of anteriority and/or posteriority, some languages may also indicate whether the SoA is relatively close to R, or relatively far away.

Following Hengeveld (1989), Dik considers grammatically expressed Objective Modality distinctions to be the expression of π_2-operators, whereas grammatical expressions of Subjective and Evidential Modality are expressed by π_3-operators.

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40. The distinction between Internal and External Phasal Aspect is taken over by Hengeveld in later publications (Hengeveld 1990, 1992a, 1992b).

2.4. Summary

This chapter has described the gradual development of the layered clause structure before 1989, in order to show the extent to which certain important ingredients of the 1989 model were already present in earlier work on FG. The basic principle of ordering operators to get the correct expression of verbal complexes was introduced by Dik (1980a). The proposal that a predication is the restrictor of an event variable, and the idea that the Domain of Discourse should be integrated as a necessary component into the grammar were both put forward by Vet (1986). Certain scope differences in the realm of modality have been described in relation to FG by Goossens (1987b).

The model of the layered clause structure introduced by Hengeveld has also been influenced and inspired considerably by other functionally oriented theoretical and typological studies concentrating on TMA phenomena. As they are acknowledged duly in the articles and books mentioned, I have chosen to focus on the FG background here. After the original introduction of the layered clause structure in 1989, the model has been subject to modifications and criticism, starting with Dik's adapted version discussed in section 2.3.2 above. The following chapter will be dedicated to a discussion of some of the suggested adaptations and improvements, and the outline of a new, more consistent treatment of TMA phenomena in FG.

3. Towards a consistent treatment of Tense, Mood and Aspect

3.0. Introduction

This chapter will present a critical discussion of recent developments in the
FG representation of Tense, Mood, Aspect and Illocutionary Force.[41] The
adoption of the layered clause structure in 1989 marked an important point
in FG history. This clause structure, which has been described in 2.3, forms
the basis for most FG publications appearing since then. Before discussing
these later publications, I will define some of the terms used for structural
elements (3.1). I will do this in an explicit way in order to determine and
clarify the exact status of these elements.

Section 3.2 discusses criticism and applications of the 1989 model. Some
proposals to change aspects of the underlying clause structure will be
described and evaluated. In section 3.3 I will suggest an adaptation of the
1989 model, aimed at a more adequate and consistent treatment of TMA
phenomena in FG. This adaptation integrates most of the comments and
findings put forward in section 3.2, and as such updates the FG underlying
clause structure. The major novelties in the updated version are:

(i)   A *zero-layer* with operators and satellites which have only the predi-
       cate in their scope.

(ii)   A *variable c_i* for the core predication. This variable represents a situa-
       tional or core concept, defined as a moment or interval in time charac-
       terized by the prior, simultaneous, repetitive or posterior occurrence of
       a SoA.

(iii) Various types of *Quantificational Aspect at different layers* in the
       structure.

(iv)   The recognition of *Past Mood* (π_3) in addition to Past Tense (π_2), to
       account for verb forms which locate the temporal deictic centre in the
       past.

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41. This chapter is an adapted version of Cuvalay (1995b).

(v)   A *variable C_i* for the Clause. This variable represents the communicated content of the expression.

(vi) A *fifth layer* with operators and satellites which indicate how the communicated content fits in the larger stretch of discourse.

Definitions of TMA values will be tied to the specific function of each layer. This makes a strict interpretation of linguistic data possible, and avoids vague descriptions. In this way, I intend to exploit the merits of a formalized model more fully. The updated version will serve as the theoretical background for the analysis of the Arabic data in chapters 4 to 7.

3.1. The definition of some FG terms

3.1.1.   Illocutionary Force and Basic Illocution

Dik (1989a: 256) distinguishes between the illocutionary intention of the Speaker, the illocution as coded in the linguistic expression, and the illocutionary interpretation of the Addressee. Only the *Illocutionary Force* as coded in the expression is analyzed further as an element of grammar. Illocutionary intentions and interpretations without any reflection in the linguistic properties of an expression are described as *pragmatic illocutionary conversion*, and are not represented in the FG model.

The Illocutionary Force is determined primarily by the *Basic Illocution* of a sentence. The Basic Illocution tells the Addressee what to do with the information provided, and is often referred to as *sentence type*. Dik recognizes DECL(arative), INT(errogative), IMP(erative), and EXCL(amative) as basic illocutionary values. These Basic Illocutions may be converted by lexical or grammatical means. As an example of illocutionary conversion accomplished by adding a tag, Dik (1989a: 257) gives

(1)   a. *She is a nice girl.*   (DECL)
      b. *She is a nice girl, isn't she?* (DECL>INT)

The Illocutionary Force of an expression is thus determined by the Basic Illocution, and possibly modified by linguistically coded illocutionary conversions. It is not clear how the Illocutionary Force and the Basic Illocution of an expression relate to the *Speech Act* which is performed in producing

it. Both Dik (1989a) and Hengeveld (1989) use the term Speech Act to refer to the complete expression. For reasons that will be discussed later, I regard the Speech Act as related to the Illocutionary Force of an expression on the pragmatic level of intention and interpretation only.

3.1.2. Expression and Clause

There has been some discussion within FG concerning the definition of the term *Clause*, especially in relation to the status of *extra-clausal constituents*. Extra-clausal constituents are usually marked by pause-like inflections in the intonation pattern. They fall outside the scope of the Basic Illocution, and have pragmatic functions such as initiating or ending a turn in conversation, relating the sentence to the preceding context, or clarifying a part of the utterance. Dik (1989a: 264-265) gives the following examples:

(2) a. *Well* [Initiator], *what about some dinner?*
     b. *Ladies and gentlemen* [Address], *shall we start the game?*
     c. *As for the students* [Theme], *they won't be invited.*
     d. *I'm afraid, Peter* [Address], *that you are going a bit too fast.*
     e. *John was, so they say* [Modal parenthesis], *a bright student.*
     f. *It's rather hot in here, isn't it?* [Tag, Illocutionary Modifier]
     g. *He's a nice chap, your brother* [Clarification].

In my view, extra-clausal constituents should be indicated in the underlying structure, since they are part of the utterance. Considering their function, Illocutionary Modifiers such as *isn't it?* (2f) could be represented as σ_4-satellites. Modal elements like *so they say* (2e) indicate the source of the proposition, which is a function of σ_3-satellites. Extra-clausal constituents involved in the management of the interaction (2a, 2b, and 2d) or indicating the informational structure of a larger stretch of discourse (2c) can be represented as σ_5-satellites. Constituents like *your brother* in (2g) clarify the intended meaning of one term or predicate only. An analysis as an apposition at term or predicate level seems therefore most appropriate, although this is beyond the scope of the present study.

The group of so-called extra-clausal constituents is thus quite heterogeneous. Some of the examples in (2) fall within the scope of the Basic Illocution (2e) or co-determine the Illocutionary Force (2f). Constituents with the pragmatic function of Clarification formally belong to the represen-

tational level. I therefore propose a new definition of *extra-clausal*, one derived from a clear distinction between an Expression (E_i) and a Clause (C_i).

In this study, the term *Expression* refers to a group of words or phrases which together form a linguistic unit with one Illocutionary Force. This definition includes σ_5-satellites.[42] These satellites fall outside the scope of the Illocutionary Force, but do not have an Illocutionary Force of their own. They belong and contribute to a linguistic unit with a single illocutionary value, although their function does not involve this illocutionary value. For reference to the underlying structure of the complete expression I will use the term *E-structure* instead of the familiar *underlying clause structure*.[43]

The term *Clause* is reserved for all elements below the illocutionary layer, together with the Illocutionary-Force-determining operators (π_4) and satellites (σ_4). They constitute the *communicated content* of the expression. The communicated content corresponds to the complete utterance without σ_5-satellites. According to my definitions of Expression (E_i) and Clause (C_i), only σ_5-satellites qualify as extra-clausal constituents. In view of current developments in the model and the modifications that will be proposed later, these strict definitions for the terms Expression and Clause are convenient.

3.1.3. State of Affairs and Aktionsart

In the FG framework the term *State of Affairs* (SoA) is defined as "the conception of something that can be the case in some world" (Dik 1989a: 46). In its broadest sense, this term may refer to a number of concepts which correspond to the following underlying structures:

(i)   A predicate with inserted arguments (the *nuclear predication*).

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42. π_5-operators, which will be introduced in section 3.3.7, also belong to the Expression (E_i), but not the Clause (C_i).

43. My preference for the term *E-structure* follows from the definitions of Expression and Clause. In view of these definitions, the term *underlying clause structure* should be replaced by *underlying expression structure*, which is abbreviated to *E-structure*. For the same reason, I will not use Hengeveld's term *clause satellites* for σ_5-satellites (Hengeveld 1992: 10-11).

(ii) A predicate with inserted arguments, π_1-operators and σ_1-satellites (the *core predication*).

(iii) A predicate with inserted arguments, π_1- and π_2-operators, and σ_1- and σ_2-satellites (the *extended predication*).

These concepts differ in their underlying structural complexity. In order to discriminate between them, I will use the term *State of Affairs* for concepts denoted by nuclear predications,[44] *core concepts* for those which correspond to core predications, and *extended concepts* for those corresponding to extended predications.

Following Dik (1989a: 90; see also section 2.2.1.4), I consider the term Aktionsart to refer to the internal temporal properties of a SoA. These are determined by the predicate in combination with its arguments. For those temporal characteristics which are determined by the meaning of the predicate (and which may be changed by the insertion of arguments), I use the term *inherent aspectuality*. The inherent aspectuality of the verbal predicate $read_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$, for instance, is such that this predicate may describe a telic SoA. In combination with an indefinite plural argument such as *books*, it can also depict a SoA which is not telic. In the same way, an inherently punctual predicate may refer to an ongoing SoA with a plural first argument, as is the case, for example, with the punctual predicate $arrive_V$ $(x_1)_{Ag}$ in the expression *the guests are arriving*. It is therefore necessary to make a clear distinction between the inherent aspectuality of a verbal predicate and the Aktionsart of a SoA. The difference between inherent aspectuality and Aktionsart will be elaborated further in chapter 6.

3.2. The development of the E-structure after 1989

3.2.1. The 1989 model

As stated in chapter 2, most of Hengeveld's ideas concerning a layered E-structure (Hengeveld 1987, 1988, 1989) have been fully integrated into FG

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44. This is equivalent to the original meaning of the term *State of Affairs* in the FG model.

theory (Dik 1989a). Dik's modifications of Hengeveld's 1989 proposal are here repeated for convenience:

(i)   Dik does not mention σ_5-satellites.

(ii)   Hengeveld represents the Basic Illocution of an expression by an abstract illocutionary predicate, with a frame in which the Speaker(s), Addressee(s), and propositional content are inserted as arguments. This representation is not taken over in Dik: his π_4-operators are represented before the variable E_i and include operators that specify the Basic Illocution of the expression.

(iii)   Dik introduces the predicate variable f_i.

(iv)   Dik distinguishes between Internal and External Phasal Aspects:

- The Internal-Phasal-Aspect values Ingressive, Progressive, and Egressive affect the nature of the described SoA directly and are thus captured by π_1-operators.

- The External-Phasal-Aspect values (Immediate) Prospective and (Recent) Perfect leave the internal constitution of the SoA intact, and are treated as the expression of π_2-operators.

With the exception of the differentiation between Internal and External Phasal Aspect, Dik (1989a) does not give any reasons for his deviation from Hengeveld (1989).

In later publications, Hengeveld accepts the modifications mentioned here under (iii) and (iv) (Hengeveld 1990, 1992a), but continues to use an abstract illocutionary predicate and σ_5-satellites (Hengeveld 1992b). In the following discussion, Dik (1989a) is taken to represent 'the FG standard'. Hengeveld's treatment of Illocutionary Force and his use of σ_5-satellites will be evaluated in section 3.2.4.1.

Since the adoption of the layered model in 1989, several proposals for adding layers to the E-structure have been made. These include: (i) the introduction of a zero-layer inside the existing layers (Keizer 1992a), (ii) the addition of a quantificational layer in between the original first and second layers (Rijkhoff 1990), (iii) the recognition of quantificational operators at more than one layer (Vet 1992), and (iv) the expansion of the model with

a fifth layer for clausal operators (Moutaouakil 1993) or σ_5-satellites (Hengeveld 1989, 1992b). These proposals will be discussed from the inside out, starting with the proposal for direct modification of the lexical predicate at the innermost layer, and ending with the fifth - and outermost - layer.

3.2.2. The predicate variable f_i

Mention of a predicate variable f_i is first made in Dik (1989a). The necessity and implications of the introduction of this variable are discussed by Keizer (1992a; 1992b: 125), who proposes to expand the E-structure by adding a zero-layer with its own operators and satellites. In her view, the variable f_i symbolizes a *zero-order* type of entity different from the 1st-4th order entities associated with the other layers. For verbal predicates Keizer suggests the π_θ-operators Perfective/Imperfective, Progressive Aspect and Negation. Manner satellites are also taken to function on the new layer.

Hengeveld (1992) uses the predicate variable f_i as well, but for him this does not involve a separate zero-layer. The variable is instead restricted by the main predicate and optionally modified by π_1-operators and σ_1-satellites. Both Keizer and Hengeveld thus use the predicate variable f_i to represent a predicate which is modified by operators and satellites *before* the insertion of arguments. They do not conceive of the nuclear predication (the predicate with inserted arguments) as a structural unit inside of the core predication. In Dik (1989a), operators and satellites associated with the core layer have their effect on the nuclear predication, i.e. the predicate *with* its arguments.

Contrary to both Keizer and Hengeveld, I adhere to Dik (1989a: 67) in that I assume that Internal Phasal Aspect operators and Manner satellites relate to the nuclear predication, translating it into a core predication. In my view, the core predication should have a variable of its own, an issue which will be discussed further in section 3.3.2. The predicate variable f_i is then reserved for reference to the inherent properties of the predicate only. Even with this much more restrictive use of the predicate variable f_i, it is possible to think of operators and satellites which directly modify this inherent meaning as will be argued in section 3.3.1.

FG investigations of the polysynthetic languages Koyukon and West Greenlandic show how the zero-layer may be used for the description of particular types of derivation. Fortescue (1992: 114) proposes to use σ_θ-satellites as sub-nuclear modifiers of the f_i-variable to account for some of the optional prefix strings in Koyukon verb forms. He mentions an example

with the prefix *tlee* 'out the door'. According to Axelrod (1993: 22), there are some 300 derivational prefixes of this type in Koyukon, each of which adds a particular meaning to the verb. The prefix *tlee-* usually combines with a momentaneous verb stem and the imperfective or perfective prefix *ne-*, but it may also occur in a verb form with a customary stem. Some examples with the root *-tlaakk/tlukk*, referring to the handling or holding of a mushy-wet-sticky-messy-disorderly object, are given in (3):[45]

Koyukon (Axelrod 1993: 22, 23)
(3) a. *yedeneetlaakk*
         ye-   de- ne- tlaakk
         3SG.O   G   M   mushy.MOM
         'S/he arrived carrying it (wet pelt).'
     b. *tleeyedaaneetlaakk*
         tlee- ye-   de- ne- tlaakk
         DS   3SG.O   G   M   mushy.MOM
         'S/he took it (wet pelt) out the door.'
     c. *tleeyedetluh*
         tlee- ye-   de- tluh
         DS   3SG.O   G   mushy.CUST
         'S/he customarily takes them (wet pelts) out the door.'

tlee- and similar prefixes may be used with a variety of basic verb stems to create derived verbs in which the particular adverbial meaning of a prefix is incorporated. According to Fortescue, a representation of this kind of derivation as the direct modification of the f_i-variable by optional σ_θ-satellites reflects the morphologically integrated expression of derivational and inflectional affixes in Koyukon. He argues that the use of this formalism allows us to perceive certain predicate formation processes as similar to the modification of predications by satellites of a higher layer.

Fortescue rejects the possible introduction of operators at the sub-nuclear layer, on the basis of the (supposed) absence of grammatical choices in the lexical component of the FG model. In my opinion, there should be no prin-

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45. In Axelrod's examples of Koyukon, the glosses should be read as follows: CUST = customary, DS = component of an aspect-dependent derivational prefix string, G = gender, M = mode prefix, MOM = momentaneous, O = direct object (Axelrod 1993: x).

cipled objection to grammatical operations within this component. Some highly regular types of predicate formation may very well be represented by lexicon-internal operators. I agree with Fortescue's representation of *tlee-* as a satellite, however, in view of the large number of similar prefixes, which makes a representation by an operator less appropriate.

Kristoffersen (1992) does not mention π_θ-operators directly, but his account of derivation and inflection in West Greenlandic shows that some quantificational suffixes which normally occur as the expression of a π_2-operator can also be involved in predicate formation rules. The suffix *-sar-* (in the examples realized as *-tar-*), for instance, is analyzed as a marker of Habitual Aspect in (4):

> West Greenlandic (Kristoffersen 1992: 162)

(4) *ullut tamaasa misilin- niqar- luar-   tar-   put*
     day   every   test-   PASS- well- HAB- DECL.3PL
     'Every day they are thoroughly tested.'

The same suffix occurs directly after the verb stem in (5):

> West Greenlandic (Kristoffersen 1992:162)

(5) *misilit- tar-   niqar- luar- put*
     test-   REP- PASS- well- DECL.3PL
     'They were thoroughly tested.'

In (5), the suffix *-sar-* indicates that the testing consisted of a number of repeated procedures. Kristoffersen treats this occurrence of *-sar-* as a case of predicate formation, by which the input predicate becomes inherently repetitive. If this analysis is accepted, the type of predicate formation involved could be represented by a π_θ-operator with the value Repetitive. More about the possibility of describing certain types of predicate formation by π_θ-operators will be mentioned in section 3.3.1.

3.2.3. Quantificational Aspect

3.2.3.1. Rijkhoff's quantificational layer

Rijkhoff (1990, 1992) proposes to distinguish three layers within the representational level of Hengeveld and Dik's E-structure. In analogy with his

own classification of term operators, Rijkhoff suggests that the layer closest to the predicate should account for all qualitative information concerning the described SoA, including distinctions related to Phasal Aspect. The second (and newly introduced) layer handles Quantificational Aspect, and a third layer is reserved for temporal operators and satellites which account for the localization in time and space. Rijkhoff (1992: 205) uses the three representational layers to explain the relative ordering of different types of satellites. In (6), the qualificational satellite *for a short while* precedes the quantificational satellite *every day*, which in turn precedes the temporal satellite *in January*.

(6) *I was there for a short while every day or so in January.*

I will evaluate Rijkhoff's proposal after a discussion of the work of Vet (1992) and Goossens (1991) on Quantificational Aspect.

3.2.3.2. Vet's δ-quantifiers

Vet (1992) accepts an E-structure with four layers, but argues for the introduction of *quantifier-like specifiers* functioning as an extra set of operators on the second, third, and fourth layers. The positions for these quantifiers are indicated with δ_2, δ_3, and δ_4 (Vet 1992: 58), to distinguish them from the positions for π-operators. In Vet's model, the π_4-operator specifies the Basic Illocution, while the δ_4-position is meant to capture grammatical mitigation or strengthening of the force of the Basic Illocution. The π_3-operator specifies the *evaluation time* for the truth value represented in the proposition variable X_i. δ_3-quantifiers capture the modal qualifications concerning the truth value of the proposition, as far as they are expressed grammatically.

For his discussion of Tense and Aspect in French, Vet (1992: 59) concentrates on the function of the δ_2-quantifier, which, together with the π_2-operator indicating Tense, serves to specify information concerning the time-space region e_i. Vet suggests analyzing the French *Imparfait* (Imperfect Past) as the combined expression of a π_2-operator with the value Past and a δ_2-quantifier with the value *Partitive*. In Vet's view, this analysis is favourable because it accounts for the two possible readings of a sentence like (7):

(7) *Pierre   encageait   le rat*
     Pierre   cage.IMPERFECT PAST   the rat
     a. 'Pierre was caging the rat'
     b. 'Pierre used to cage the rat'

In the first reading the sentence describes some part of a non-completed caging event, while the second reading refers to a subset of completed caging events. Vet (1992: 61) represents the difference between the two readings as follows (PQ stands for the *Partitive Quantifier*):

(8)   a. PAST PQ e_i: {encager$_v$ (Pierre)(le rat)} (e_i)
      b. PAST PQ {e_i}: [{encager$_v$ (Pierre)(le rat)}(e_i)] ({e_i})

By putting the e_i-variable in braces, Vet indicates that we are dealing with a whole set of caging events, instead of one instantiation of this set. An alternative structure for the reading in (7a), in which the aspectual component of the Imperfect Past is rendered by a π_1-operator with the value Imperfective, can, according to Vet, not account for the reading in (7b), since each e_i of the set {e_i} is characterized as a complete action.

In my view, Vet's Partitive Quantifier is equivalent to a regular Imperfective, in the sense that it tells us to focus upon an interval as part of a larger stretch of time. The difference between (7a) and (7b) is that the conceptualized interval in (7a) is described as a part of an ongoing SoA, whereas the interval in (7b) is characterized by several SoAs, themselves presented as single wholes. This difference is not expressed in French. The choice to present a particular situation as viewed from within (Imperfective) or as a single whole (Perfective) is captured by π_1-operators in the original E-structure. If the habitual interpretation of (7b) is indeed only *implied* by the combination of Imperfectivity and knowledge of the context, there is no need to reanalyze Imperfective Aspect as a category expressed by π_2-operators.

3.2.3.3. Goossens's repetitive operator

Goossens (1991: 17-18) argues that both Iterative and Habitual Aspect should be treated independently of the distinction between Imperfective and non-Imperfective Aspect for an adequate representation of these categories in English. The quantificational operator Repetitive is taken to specify Itera-

tivity in combination with a SoA which is repeated on the same occasion, and Habituality in combination with a SoA repeated on different occasions. Goossens (1991: 20) describes the Repetitive operator as having variable scope over the operator specifying Imperfective/non-Imperfective. If Imperfective has scope over Repetitive, the repeated event is viewed as ongoing, as in sentence (9):

(9) *As he was firing at me, I saw him close his eyes.*

If Repetitive has scope over Imperfective, an event in progress is viewed as repeated, as in (10):

(10) *They used to be watching TV in the dining-room.*

The observed variable scope involving operators which are supposed to belong to different layers in the E-structure leads Goossens (1991: 25) to the conclusion that operators are not necessarily tied to a single layer.

3.2.3.4. Discussion

The three proposals concerning the representation of Quantificational Aspect will now be compared and evaluated. Both Vet (1992) and Goossens (1992) recognize the influence of quantification on different layers in the E-structure. Vet discusses quantification associated with the π_2-, π_3-, and π_4-layer, and represents it by an extra set of operators for each of these layers. Goossens argues for one quantificational operator, which functions alternatively on the π_1- or π_2-layer. In the light of the observed spreading of quantificational values over the different layers, the proposal to introduce a quantificational layer in between the π_1- and π_2-level (Rijkhoff 1990; 1992) seems less appropriate.

   I reject Goossens's idea that operators may be tied to different layers in the E-structure. The prediction of ordering phenomena on the basis of the layer to which an operator belongs is one of the strong points of the current FG approach. If operators are allowed to shift their position on the basis of contradictory data, this advantage of the layered model would be weakened considerably. Vet's expansion of the E-structure with quantifier-like specifiers is attractive, since it can account for quantification on all levels. The format with an extra symbol is unnecessary, however. From the beginning,

π stood for various operators, involving Polarity, Quantification, Mood, etc. Within a given layer, scope relations may exist between the different types of operators (Dik 1994: 354; De Groot 1995: 40). In order to indicate the preferred ordering of operators within a single layer, we need more than the two types mentioned by Vet (1992). I thus continue to use the symbol π with an index to refer to the appropriate layer, and will leave a further subclassification of operators for future typological research, which must include the position and interaction of all operator types associated with each layer.

While Vet (1992) discusses quantification on the π_2-, π_3-, and π_4- layer, I will extend his approach to the π_1- and π_0-layer as well. A quantificational π_1-operator accounts for the repetition of a SoA on one occasion, as in Goossens's Iterative Aspect examples in section 3.2.3.3 (Goossens 1991). A quantificational π_0-operator captures Repetitive Predicate Formation of the type encountered in West Greenlandic, by which a verbal predicate becomes inherently repetitive (see Kristoffersen 1992, here discussed in section 3.2.2).

3.2.4. The treatment of Illocutionary Force

3.2.4.1. The illocutionary predicate

As mentioned in section 3.1.1, Dik (1989a) and Hengeveld (1989) recognize Declarative, Interrogative, Imperative, and Exclamative as Basic Illocutions. Hengeveld represents the Basic Illocution of an expression as an abstract illocutionary frame ILL with three arguments: the Speaker(s) (Sp), the Addressee(s) (Ad), and the proposition X_i.[46] The Basic Illocution may be modified by illocutionary π_4-operators and σ_4-satellites. The abstract frame (including its operators and satellites) forms the main content of the Expression E_i. Hengeveld mentions optional σ_5-satellites on this layer. These satellites serve to represent extra-clausal constituents which relate the Expression E_i to the larger stretch of discourse. Dik formalizes the Basic Illocution as the expression of a π_4-operator, which has the whole utterance E_i in its

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46. Hengeveld (1989) uses *S* and *A* instead of *Sp* and *Ad* (see also footnote 36, chapter 2).

scope. Other π_4-operators and σ_4-satellites may further specify the Illocutionary Force. Dik's E-structure is rendered in (11) (Dik 1989a: 248):

(11) π_4 E_i: [[proposition] (σ_4)] (E_i)

Hengeveld (1989) represents the E-structure as:

(12) E_i: [π_4 ILL: σ_4 (Sp) (Ad) [proposition]] (E_i): σ_5 (E_i)

By formalizing the Basic Illocution as an abstract predicate with a frame in which the proposition is inserted, Hengeveld (1987: 54) suggests a certain similarity with the lexical predicate of the representational level. This similarity is misleading, in view of the following observations:

(i)   The number of lexical predicates is theoretically infinite, while there are only few Basic Illocutions.

(ii) Lexical predicates have a frame with open positions for terms, while illocutionary predicates have fixed positions for the main discourse participants and the proposition X_i.

(iii) Unlike the terms inserted into a lexical predicate, the discourse participants are usually not overtly expressed.

Certain qualities of the discourse participants are relevant for the representational level as well as the interpersonal level. The traditional representation of the discourse participants in the Domain of Discourse - which contains information relevant to all components of the model - thus seems more appropriate than the statement of this information as part of the abstract illocutionary frame. I therefore prefer Dik's representation of Basic Illocution by a π_4-operator to Hengeveld's representation by an illocutionary frame.

Another point in favour of Dik's approach is the recurrent frame-like construction of variables with one or more operators and satellites at all layers in the structure. The way in which a proposition serves as the main content for a clause does not differ essentially from the embedding of an extended predication into a proposition, or from the embedding of a core predication into an extended predication. Each variable is in fact associated with the same structure, consisting of a position for operators, an open

position for the main content (usually represented by the variable of the next lower layer), and optional satellites. The presence of an E_i-variable, representing an actual linguistic expression, thus presupposes the insertion of a C_i-variable, representing a communicated content. The C_i-variable is associated with a frame-like structure in which a proposition X_i must be embedded, while X_i itself carries a frame with an obligatory slot for an extended predication e_i. The e_i-variable is in turn restricted by a core predication c_i, consisting of a nuclear predication with π_1-operators and σ_1-satellites.

EXPRESSION

$$\pi_5 \, E_i : \quad [\text{ communicated content }] \, (E_i) : \sigma_5 \, (E_i)$$

$$\pi_4 \, C_i : \quad [\qquad \text{proposition} \qquad] \, (C_i) : \sigma_4 \, (C_i)$$

$$\pi_3 \, X_i : \quad [\quad \text{extended predication} \quad] \, (X_i) : \sigma_3 \, (X_i)$$

$$\pi_2 \, e_i : \quad [\qquad \text{core predication} \qquad] \, (e_i) : \sigma_2 \, (e_i)$$

$$\pi_1 \, c_i : \quad [\quad \text{nuclear predication} \quad] \, (c_i) : \sigma_1 \, (c_i)$$

PREDICATE + ARGUMENTS
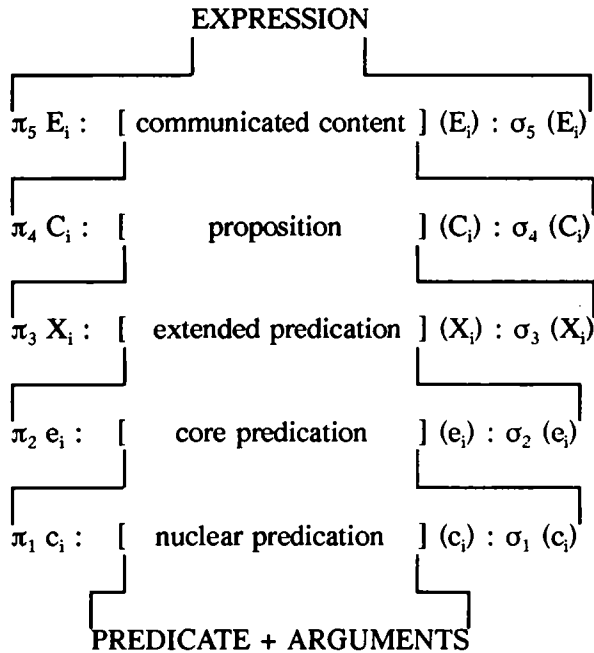
Figure 2. The E-structure

The E-structure as a configuration of recurrent frames is represented in figure 2. At the bottom the most simple structure consists of a predicate and its arguments. The most complex structure at the top represents a complete expression. The c_i-variable for the core predication will be discussed in

section 3.3.2, and π_5-operators in section 3.3.7, but their position is already indicated in figure 2.

The format for the outer layers of the E-structure adopted here is a conflation of the E-structures in (11) and (12). The relevant part of the model is represented separately as:

(13) $\pi_5 E_i$: $[\pi_4 C_j$: [proposition](C_j): $\sigma_4(C_j)](E_i)$: $\sigma_5(E_i)$

Hengeveld's distinction between σ_4- and σ_5-satellites is preserved, but his illocutionary frame with the Speaker and Addressee as abstract arguments is rejected.

3.2.4.2. The subclassification of illocution types

So far, four types of Basic Illocution have been recognized within FG. This section discusses two proposals to differentiate them further. Hannay (1991) suggests distinguishing between five subcategories of the illocutionary operator DECL (Declarative) to account for different modes of presenting information in English. Each mode corresponds to a specific pattern of pragmatic function assignment, thus leading to more precise descriptions of word order variation and prosodic features.

In Hannay's *All-New mode* (DECL-A) none of the presented information is treated as topical, resulting in a sentence with basic word order. In the *Topic Mode* (DECL-T), a topical element is selected for special treatment and placed in the first position (P1) of the sentence. In the *Reaction Mode* (DECL-R), the focal information is put in the P1-position. Topical information may follow, but can also be left out altogether. Reaction Mode Declaratives frequently appear in response to questions. The two other modes are the *Neutral Mode* (DECL-N), in which neither topical nor focal information is given special prominence, and the *Presentative Mode* (DECL-P), which is used to introduce a new discourse topic. Of special interest is the recognition of the Reaction Mode as a subtype of declarative sentence, providing for a strong link between so-called *marked*, or *emotive* word order and the immediately preceding context.

Vet (1990a) deviates from Hengeveld (1989) and Dik (1989a) by representing Illocutionary Force as a δ_{ILL}-operator, which also captures the func-

tions of Hengeveld's π_3 and π_4 operators.[47] Examples of Vet's representation are:

(14) a. $\delta_{DECL} X_i$: [Past e_i: {walk$_V$(d1x$_i$: Peter(x$_i$))$_{Ag}$} (e$_i$)](X$_i$)
'Peter walked.'
b. $\delta_{INT} X_i$: [Past e_i: {walk$_V$(d1x$_i$: Peter(x$_i$))$_{Ag}$} (e$_i$)](X$_i$)
'Did Peter walk?'

In the above clause structures, the value of δ remains unspecified. Vet uses the δ-position to account for grammatical and lexical mitigation of the Basic Illocution, or modification of the degree of factuality of the proposition. The δ-position may be occupied by a predicate, an adverb, or a specification of Mood. Vet (1990a: 128) gives an example of a French sentence, in which the modal adverb *peut-être* is represented as a declarative operator (peut-être$_{DECL}$) that assigns the value *Possible* to a proposition X_i. The special meaning of an expression like *I hear* as an evidential marker, and the use of the Future Tense (in French) to express a polite request are also captured by specific combinations of values in the δ_{ILL}-operator.

The advantage of Vet's operator with two variable positions over Dik and Hengeveld's classification with operators on two interpersonal layers is not made clear. The occupation of the δ-position by adverbials (like *peut-être*) goes against the generally accepted division of labour for operators and satellites in FG. As Vet seems to abandon this particular representation in a later publication (Vet 1992), the δ_{ILL}-operator will not be considered further here.

3.2.4.3. Sentence Types

Moutaouakil (1993) advocates a formal distinction between an expression's *Sentence Type* and the (Basic or Derived) Illocution conveyed. He relates an utterance's illocution to the type of Speech Act performed in producing it. An assertive Speech Act, for instance, is typically performed by uttering

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47. The δ-operator mentioned here is different from the δ-operators introduced in Vet (1992) which represent quantificational specifiers on different levels of the E-structure (see section 3.2.3.2).

a sentence of the declarative type. An interrogative sentence, however, may also be used to express an assertion.

Moutaouakil's proposal can be seen as an attempt to integrate conventionalized (and in some cases even grammaticalized) illocutionary conversions into the E-structure. Such an adaptation would allow for the representation of (15a) and (15b) as a request and a rhetorical question respectively, while at the same time acknowledging their Sentence Type as interrogative.

(15) a. *Will you give me your pencil?*
       b. *Haven't I given you all my books?*

Moutaouakil (1993: 6-7) comes up with two possible adaptations of the original model. According to the first, the π_4-operator consists of two sub-operators, one indicating Sentence Type and another specifying the Illocutionary Force. As an alternative, Moutaouakil considers the placement of the Sentence Type operator on a higher π_5-layer. In both solutions the Sentence Type operator has the higher scope. Moutaouakil argues that both types of operator, together with an extra-clausal textual operator, determine certain properties of the E-structure, such as the absence of a propositional layer in nondeclarative sentences.

3.2.4.4. Communicative Patterns

The proposals by Hannay (1991), Vet (1990a), and Moutaouakil (1993) concerning the treatment of Illocutionary Force are all alike in that they suggest giving one or more illocutionary operators the power to put constraints on elements of the E-structure. Particular patterns in the E-structure are treated as subtypes of one of the Basic Illocutions. In my view, both the Basic Illocution and some other characteristics of the E-structure may be determined at a higher, pragmatic level. The various patterns cannot then be subtypes of the Basic Illocution, as the Basic Illocution is itself part of the pattern. From a process-oriented point of view it seems natural to assume that the selection of the intended Speech Act (as part of the overall communicative strategy) comes first, directly after the establishment of a communicative intention. When a Speaker decides, for instance, on the expression of a Request, he can then choose between an Imperative sentence with an illocutionary converter as in (16a), an Interrogative sentence with a

modal auxiliary, as in (16b), or a Declarative sentence expressing a wish concerning the Addressee's behaviour, as in (16c).[48]

(16) a. *Pass me the salt, please!*
      b. *Can I have the salt for a moment?*
      c. *I would like you to pass me the salt.*

Pragmatic factors help the Speaker to determine which alternative is most appropriate for the achievement of his goal. Some of these pragmatic factors follow directly from elements present in the Domain of Discourse, and may be represented formally in this part of the model. The type of discourse and the relationship between Speaker and Addressee presumably influence decisions on this layer in a systematic way. Other circumstances such as immediate urgency of the request or the personal style of the Speaker are more difficult to account for systematically. I introduce the concept of *Communicative Pattern* as a provisional interface between the communicative strategy and the Expression E_1. The role of different Communicative Patterns is explained in section 3.3.6.

3.2.5. The application of the FG model

3.2.5.1. Definitions of TMA categories

In the previous sections, alternative representations of the E-structure have been discussed. Some attention should also be paid to differences in the application of the model. The numerous approaches to the definition of TMA categories give room for different operationalizations. The 'standard' FG distribution of grammaticalized TMA distinctions in relation to the E-structure is as follows:

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48. After the establishment of the communicative intention <I want to induce Ad to pass me the salt>, Sp may also decide not to make a REQUEST, but, for instance, a REMARK (*The soup is flat*), or an ORDER (*Pass me the salt!*). Descriptions of what exactly are conventionalized ways of performing a certain Speech Act, and even of what types of Speech Act should be treated in the model, have to be made for each speech community and type of discourse separately. For an investigation of the realization of directive expressions in Latin I refer to Risselada (1993).

(i) The Perfective/Imperfective distinction and Internal Phasal Aspects (Ingressive, Progressive and Egressive) are represented at the layer of the predicate/nuclear predication (π_1).

(ii) External Phasal Aspects (Prospective and Perfect), Quantificational Aspects (Iterative, Habitual, etc.), temporal distinctions and grammatical expressions of Objective Modality are assigned to the layer of the extended predication (π_2).

(iii) Grammatical expressions of Subjective Modality and Evidentiality adhere to the layer of the proposition (π_3).

(iv) Grammatical distinctions regarding the type and strength of the Illocutionary Force are represented at the illocutionary layer (π_4).

Not all studies within the FG framework apply these distinctions in the same way. Deviations from the classification sketched above concern the position of the External Phasal Aspects and the representation of forms which locate the deictic centre in the past. I will summarize some of the work of Vet (1992) on French as an example.

Vet (1992: 62) presents Perfect Aspect as the expression of a π_1-operator, "because it changes the lexical meaning of the predicate". Predicates that normally describe a transition refer to the result of a transition when they are combined with a Perfect operator.[49] Perfect Aspect is in French expressed by the Composed Past (CP), as in (17):

(17) *Pierre a encagé le rat (maintenant) (comme vous voyez).*
       'Pierre has caged the rat (now) (as you see).'

The Composed Past can also be used to express Past Tense, as in (18):

(18) *Pierre a encagé le rat le 18 avril.*
       'Pierre caged the rat on the 18th of April.'

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49. The reference to the result of a transition, rather than the transition itself, is interpreted by Vet (1992) as a change in the *meaning* of the predicate.

The two distinct uses of the Composed Past are combined in the *Passé Surcomposé* (Overcomposed Past):

(19) *(Quand) Marie a eu terminé* (CP+CP) *son travail (elle est rentrée).*
       (When) Marie had finished her work (she went home).

In example (19), the first occurrence of the Composed Past is analyzed as the expression of a π_2-operator with the value Past, and the second one as the expression of a π_1-operator with the value Perfect.

According to Vet (1992: 64), the French Pluperfect (Past Perfect) shows the same ambiguity as the Composed Past. It may refer either to the resulting state of a transition, as in (20a), or to the transitional event itself, as in (20b).

(20) a. *(Nous avons vu que) Pierre avait encagé le rat.*
           '(We saw that) Pierre had caged the rat.'
      b. *Pierre avait encagé le rat la veille.*
           'Pierre had caged the rat the day before.'

In example (20a), the Pluperfect refers to a resultant state in the past, and is the expression of a π_1-operator Perfect and a π_2-operator Past. The Pluperfect refers to the transitional event in (20b).

To account for this type of expression, Vet proposes to distinguish two operators with the value Past, represented at different layers in the E-structure. One of them localizes the event with respect to a reference point R and is positioned at the π_2-layer. The other Past operator describes the position of the reference point R in relation to the moment of speech S. According to Vet (1992: 65), the reference point R indicates the moment at which the truth value of the proposition (X_i) is evaluated. As the choice for this particular moment reflects a personal decision of the Speaker, it is represented as the expression of a π_3-operator. The underlying difference between (20a) and (20b) is, that the form *avait* in (20a) is used to make a present statement about a past event. In (20b), the same form is used to take us back to a moment in the past, for which the statement that Pierre caged the rat the day before is claimed to be valid. I will henceforth refer to this special function of past forms as Past Mood (see section 3.3.5).

In Vet's application of the FG model to the French data we notice two important deviations from the 'traditional' classification. Vet classifies Perfect Aspect as the expression of a π_1-operator on the basis of the observed

interaction of the Perfect meaning and the Aktionsart of the SoA.[50] Past forms which indicate that the evaluation time of the proposition does not coincide with the moment of speech S are represented on the propositional layer. These modifications will both be taken over in my model of the E-structure, which will be introduced in section 3.3.

3.2.5.2. The role of variables

In addition to divergences in the distribution of TMA categories over the layers, there is some inconsistency in the use of the variables e_i, X_i and E_i as well. The variable e_i is commonly used to represent the set of SoAs not yet modified by π_2-operators and σ_2-satellites (the core predication). The same e_i represents the extended predication with π_2-operators and σ_2-satellites. If it is possible to use a variable with and without its associated operators and satellites, the question arises whether e_i plus operators and satellites, and X_i without operators and satellites, do in fact represent different entities (see Nuyts 1992: 96).

Some of the confusion is related to the lack of a distinct variable for the core predication. As soon as the core predication is provided with its own variable, we can postulate that all variables are theoretically inseparable from their operators, obligatory content, and satellites, just as a term variable represents a unit determined by its operators and restrictors. With the term variable x_i, we mean the representation of the term as specified by term operators and restrictors. Thus by mentioning e_i, we should indicate the time-space region e_i as determined by π_2-operators and σ_2-satellites and characterized further by the core predication. In the same way, the variable X_i should be used to refer to a proposition plus π_3-operators and σ_3-satellites. I propose to represent the core predication by the variable c_i, symbolizing a *core concept*. A core concept corresponds to a moment or inter-

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50. In another article, Vet (1990b) goes into the relation between Aspect and Aktionsart. He discusses the distinction between *transitional* and *non-transitional* verbs. Transitional verbs ordinarily combine with duration adverbials of the *in*-type (*Mary filled the bottle in ten minutes*), whereas non-transitional verbs as a rule go together with duration adverbials of the *for*-type (*Mary looked for the bottle for ten minutes*). For sentences in which a transitional verb nevertheless coincides with a *for*-type adverbial, or a non-transitional verb with an *in*-type adverbial, special interpretation strategies are needed.

val characterized by the aspectual projection of one or more SoAs (see section 3.3.2).

A similar confusion concerns the variable E_i. E_i represents the whole expression including possible π_5-operators and σ_5-satellites, but is sometimes claimed to refer to the Speech Act. The representation of E_i as an expression variable is in agreement with Bolkestein (1992) and Nuyts (1992), who object to the conceptualization of E_i as referring to a Speech Act rather than the product of a Speech Act. As a result of the introduction of the variable C_i for the *Clause* (see section 3.1.2), it is now possible to refer to the part of the utterance which forms the communicated content without including extra-clausal constituents which do not influence the Illocutionary Force.

3.3. A modified version of the E-structure

3.3.1. The predicate variable f_i

Following Keizer (1992a), I accept the possible modification of predicates by π_θ-operators and σ_θ-satellites. Unlike her, I intend to reserve this type of operators and satellites for the description of some highly productive derivational processes that up till now have been treated as instances of predicate formation. I assume that the operators and satellites of this zero-layer exert their modifying influence within the lexicon, which characterizes their morphological expression as essentially derivational, according to Dik's FG definition of *Derivation* as lexicon-internal, and *Inflection* as realized by expression rules in the expression component (Dik 1989a: 298).

As examples of regular predicate modifications which might be represented by π_θ-operators or σ_θ-satellites I think of derivational affixes that turn inherently durative predicates into momentaneous ones, and affixes which affect the inherent telicity of the predicate. An example of this type of derivation is given by Comrie (1985: 342), who describes the Chukchee suffix *-tva*. This suffix is applied to inherently ingressive verbs to turn them into stative ones. A π_θ-operator with the value Stative could account for the

occurrence of pairs such as *vak?o-k* 'adopt a sitting position' and *vak?o-t/va-k* 'be in a sitting position' in Chukchee.[51]

A formalism with π_θ-operators is particularly suitable for languages with obligatory affixes which indicate, for instance, momentaneousness on the verb stem. σ_θ-satellites can be used to describe the special morphology which a number of languages have to mark the direction of an action. Comrie (1985: 345) gives the following examples from Georgian:[52]

(21) *mi-dis*   'he goes (away from the Speaker or Addressee)'
     a-dis   'he goes up'
     ča-dis   'he goes down'
     še-dis   'he goes in'
     ga-dis   'he goes out'

The role of these Georgian prefixes is similar to that of the prefix *tlee-* 'out the door' in Koyukon (see section 3.2.2). The idea of formalizing some derivational processes by operators and satellites which have only the predicate in their scope is most appealing for languages with an elaborate and highly productive derivational system. For other languages, the 'normal' predicate formation rules may be more suitable.

The predicate variable f_i represents the property or relation assigned by the predicate to its arguments. f_i is obligatorily determined by a predicate (possibly derived through predicate formation), and possibly modified by one or more π_θ-operators and σ_θ-satellites:

(22) $\pi_\theta f_i$: pred$[(x_1)...(x_n)]$ (f_i): $\sigma_\theta(f_i)$

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51. A possible objection to the representation of predicate formation by operators could be that operators ordinarily do not impose selection restrictions on their operandum. As some of the traditionally accepted π_1-operators can only combine with specific SoA-types, I assume that the selective applicability of π_θ-operators is not of crucial importance for their acceptance in FG.

52. The distinction between forms expressed by operators and forms expressed by satellites is rather blurred at the zero-layer, since incorporated σ_θ-satellites like the direction markers in Georgian appear as affixes on the verb stem. Further research must indicate whether the distinction between operators and satellites can be made at this layer.

The predicate and π_θ-operators together specify the form of the predicate frame associated with the variable f_i. This frame contains all relevant information concerning the number and type of arguments, selection restrictions, etc. After the insertion of appropriate terms in the open argument positions the representation is described as a nuclear predication, denoting a SoA.

3.3.2. The core predication c_i

The variable c_i is introduced for reference to the layer of the core predication. This variable represents a situational or core concept (see Vet 1990b: 280), defined by the projection of a SoA (with its own internal temporal structure as designated by the nuclear predication) on a point or interval in time, henceforth referred to as the *event frame*.[53] At the level of the core predication it is not the SoA itself which is the focus of our attention, but the relevance of the SoA to the selected event frame.

The variable c_i is restricted by the predicate f_i plus its argument(s), and optionally extended by σ_1-satellites and/or modified by π_1-operators. Two types of Aspect are represented by π_1-operators. The first type (Aspect 1) indicates whether the event frame is conceptualized as a point (Perfective) or an interval (Imperfective). The second type (Aspect 2) specifies the temporal relationship between the SoA and the event frame. This relationship may involve the continuing influence of a dynamic SoA occurring before the event frame (Perfect Aspect), during the event frame (Progressive Aspect), or after the event frame (Prospective Aspect). Several identical dynamic SoAs may be located before as well as after the event frame (Iterative Aspect). In case of the absence of one of these second aspectual characterizations, the internal temporal structure of the SoA is projected on the event frame without further modification.

Languages differ with respect to the aspectual categories which are expressed grammatically, and the aspectual values which may be expressed together. Interaction with tense categories also occurs, in the sense that, for instance, Aspect 1 may only be expressed in the Past Tense. In some languages it is possible to indicate that an event frame is characterized by the influence of another event frame, itself characterized by the projection of a

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53. The term *event frame* is from Chung and Timberlake (1985: 214). The treatment of Tense, Mood and Aspect introduced here is inspired by their approach.

SoA. Such a complex configuration is tentatively represented by a structure with two core variables, c_i and c_j, whereby both types of aspectual operator may appear twice:

(23) $\pi_1 c_i$: $[\pi_1 c_j$: $[\pi_\emptyset f_i$: pred $[(x_1)...(x_n)]$ (f_i): $\sigma_\emptyset(f_i)]$ (c_j): $\sigma_1(c_j)]$ (c_i): $\sigma_1(c_i)$

This 'nesting' of aspects is subject to language-specific constraints and usually limited to the expression of the continuing influence of an anterior progressive situation, as in (24):

(24) *I am out of breath because I have been running.*

Note that Aspect 2 involves aspectual categories that have been labelled Internal Phasal, External Phasal, and Quantificational Aspect. It is not meant to cover all phenomena generally described by these labels, however, as will become obvious in the following account of the functions captured by the extended-predication layer.

3.3.3. The extended predication e_i

In the previous section I characterized the core concept c_i as the projection of one or more identical SoAs on an event frame. At the layer of the extended predication this event frame is localized in time, relative to a reference point or interval R. The position of the reference point or interval R may be implied by context, but also can be indicated by a satellite or operator of a higher layer (see section 3.3.5). If no other position is implied or indicated, R coincides with the moment of speech S. The extended predication is represented:

(25) $\pi_2 e_i$: $[\pi_1 c_i$: $[\pi_\emptyset f_i$: pred $[(x_1)...(x_n)]$ (f_i): $\sigma_\emptyset(f_i)]$ (c_i): $\sigma_1(c_i)]$ (e_i): $\sigma_2(e_i)$

The event frame can be localized before R (Past Tense), at the same time as R (Present Tense), or after R (Future Tense). It may be quantified to indicate that several identical frames are located before and after R (Habitual Aspect). It is also possible for the event frame to be not localized in time at all (Nonactual Mood). Note that these TMA values (i.e. Tense, Habitual Aspect, and Nonactual Mood) do not concern the location of the deictic centre. Values which indicate that the deictic centre does not co-

incide with the moment of speech S are captured by operators of the inter-personal level.[54]

3.3.4. The representational level

3.3.4.1. Three types of Quantificational Aspect

Now that the part of the E-structure which constitutes the representational level has been built up from the inside out, it is time to consider some consequences of the suggested approach. First of all, Quantificational Aspect is recognized at three layers.[55] The predicate, or the combination of the predicate with its arguments, may be such that the internal structure of the SoA is necessarily repetitive. In some languages, this quality of the SoA can be marked on the verb. It is better to speak of *Repetitive Aktionsart* (instead of *Repetitive Aspect*) in these cases, as this type of quantification is SoA-internal.

At the layer of the core predication the SoA itself may be quantified, leading to a core concept c_i which is characterized by a set of identical SoAs occurring before as well as after the event frame (*Iterative Aspect*). *Habitual Aspect* is represented at the layer of the extended predication, and involves the quantification of the event frame: a set of identical event frames, each of them characterized by the occurrence of one or more SoAs, is located around a reference point R. I will give a simplified account of the complex aspectual morphology of Koyukon as support for the relevance of Quantificational Aspect at three different layers in the E-structure.

Koyukon verb stems have fifteen different aspectual forms. For the expression of a verb, a speaker of Koyukon must choose between these fifteen basic verb stems. Four of these aspectual forms indicate types of Repetitive

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54. The recognition of Past Tense on the representational level, and Past Mood on the interpersonal level has consequences for the classification of temporal and locative satellites, which have not been fully analyzed so far. In English, temporal and locative satellites which indicate a deictic centre different from S (and which are thus classified as σ_3- rather than σ_2-satellites) seem to take the sentence-initial position, but this may be due to their pragmatic function.

55. Vet's quantificational specifiers on the propositional and illocutionary layer are left out of consideration here, since they involve a different kind of quantification (Vet 1992, see section 3.2.3.2).

Aktionsart. Axelrod (1993: 59-76) mentions *Persistive* (the repeated back and forth movement, usually against the resistance of some constraint), *Consecutive* (the repetition of a usually punctual action with some sort of effect), *Repetitive* (repeated action), and *Directive-repetitive* (repeated action directed at an object which is not affected). In view of the limited number of these aspectual types, their obligatory character, and their close integration with the verb stem, I represent them as the expression of a π_B-operator indicating the inherent repetitive character of the predicate.

Optional marking of Quantificational Aspect is realized by an iterative verbal prefix *no-* with the meaning 'again' or 'returning' and *Customary Superaspect*. There are four superaspects in Koyukon, of which the Customary is the most productive (Axelrod 1993: 97).[56] Superaspects can combine with any of the fifteen obligatory aspects. Customary Superaspect indicates an activity which occurs occasionally or habitually. Axelrod does not give an example in which Customary Superaspect is combined with an inherently repetitive verb stem.

An example with Customary Superaspect and the iterative prefix *no-* is:

Koyukon (Axelrod 1993: 97)[57]
(26) *nok'eetengheedzuyh*
    no-   *k'e-*   *te-*   *ne-*   *ghe-* *dzuyh*
    ITER-   INDF.O- DS-   DS-   M-   CLASSIF:multiple.CUST
    'S/he used to throw things repeatedly; s/he played dice.'

In this example, the habitual meaning indicated by the Customary Superaspect has scope over the iterative meaning expressed by the iterative prefix. I therefore interpret Customary Superaspect as the expression of a π_2-operator which indicates the repetition of an event on different occasions (Habitual Aspect). The iterative prefix is not as tightly integrated with the

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56. Axelrod calls the Customary Superaspect "by far the most productive", as almost half of the 600 verb roots in her sample admit customary stem sets (Axelrod (1993: 97). Fortescue mentions the Conative Superaspect as "the most widely applicable superaspect", but does not indicate the source of this claim (Fortescue 1992: 120).

57. In the glosses of example (26) and (27), CL = classifier, CLASSIF = classificatory verb, CUST = customary superaspect, DS = component of an aspect-dependent derivational prefix string, INDF = indefinite subject or object, M = mode prefix, NOM = nominalization, O = direct object.

verb stem as the repetitive aspects of the obligatory type, and I assume that it does not modify the inherent aspectual meaning of the predicate. I will therefore represent the iterative prefix by a π_1-operator, indicating the repetition of an event on one occasion (Repetitive Aspect).[58]

Although I did not encounter three types of Quantificational Aspect in a single Koyukon utterance, an analysis on different layers in the E-structure seems to be justified by the data. The interpretation of the Koyukon aspectual system is extremely difficult, however, and a more thorough investigation may suggest another analysis.

3.3.4.2. The definition of Perfect Aspect

In order to exploit the layered E-structure fully, definitions of TMA values should be tied to the general function of the different layers. Leaving aside the lexicon-internal zero-layer, the representational level is characterized by two layers. One of them indicates the relationship of the SoA to the event frame, and the other captures the temporal position of the event frame. The occurrence of a SoA is not located in time directly. Only the event frame, which does not necessarily coincide with the occurrence of the SoA, is located in time. Whenever a time adverbial relates to the occurrence time of a SoA, we thus have to conclude that this SoA coincides with the event frame on which it is projected.

For this reason, the English *perfect of recent past*, which is classified as a subtype of Perfect Aspect by Comrie (1976: 60), falls outside of my narrow definition associated with the π_1-layer. The possibility of using temporal adverbs such as *recently* in (27) leads to a temporal interpretation, represented as the expression of a π_2-operator.

(27) *I have recently learned that the match is to be postponed.*

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58. Fortescue (1992: 136) treats the iterative prefix as a σ_g-satellite, similar to the prefixes such as *tlee-* 'out the door' discussed in section 3.2.2. The iterative prefix belongs to a different subset, however, and may co-occur with *tlee-*, in which case the iterative meaning has the higher scope. I therefore suggest representing the iterative prefix as a π_1-operator or a σ_1-satellite. Fortescue (1992: 132) positions all quantificational aspects of the basic type and of the superaspect type on the π_1-layer, but argues for the recognition of scope differences within this layer.

The representation of Recent Past on the π_2-layer confirms the intuition that a sentence such as (27) is used to describe a past event, rather than a present state. The same holds for sentences with a so-called *experiential* or *existential perfect* as in (28) (Comrie 1976: 58).

(28) *Bill has been to America.*

Sentence (28) describes a stative SoA in the past, which is used to indicate a current fact, rather than a current state. The experiential perfect is therefore analyzed as a special subcategory of Past Tense. Obviously, special subcategories such as *Recent Past* and *Experiential Past* should be accounted for by different values of the temporal π_2-operator, in case their expression differs from the ordinary form for Past Tense.

The existence of an aspectual (π_1) and temporal (π_2) function for the so-called 'perfect' forms of languages like French and English accounts for the ambiguity in a sentence like (29):

(29) *Bill had arrived at six o'clock.*

According to Comrie (1976: 56), a true perfect-in-the-past interpretation would force us to understand the time adverbial *at six o'clock* as referring to the reference time R, at which the result of Bill's earlier arrival still obtained.[59] If the adverbial is interpreted as the indication of the occurrence time of Bill's arrival, the Pluperfect form indicates that this event preceded a not further specified past situation (past-in-the-past), without implying that the results of Bill's arrival still obtained during this situation.

The temporal values expressed by operators on the layer of the extended predication (π_2) all have the reference point R as their deictic centre. In the unmarked case that R coincides with the moment of speech S, the temporal distinctions represented on this layer function as absolute tenses.

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59. Some native speakers accept the perfect-in-the-past interpretation of (29) only with a time adverbial such as *by six o'clock*.

3.3.5. The proposition X$_i$

Temporal distinctions of the π_2-layer are principally related to the reference point R. The position of the reference point R is not represented in the E-structure, but in the Domain of Discourse. R may coincide with the time, place, and world of the Speech Act, but may also be located in another time, space, or (imaginary) world. According to Vet (1992: 65), the choice of an evaluation point other than the moment of speech S reflects a kind of personal attitude on behalf of the Speaker, and grammatical means to indicate the temporal position of R should therefore be captured by a π_3-operator, rather than a π_2-operator.

This approach is supported by Lyons's account of the semantics of tense (Lyons 1977: 821). Lyons argues that the 'normal' condition in which the reference time R coincides with the moment of speech S (S = R) presents the view that past, present and future are all located (in memory, observation or anticipation) in the experiential present. For the description of *Secondary Tenses*, he uses the concept of deictic projection into a past (R precedes S) or a future (S precedes R) world.

According to Lyons, everything after *John was in a quandary* in (30) involves Secondary Tense (i.e. R precedes S, and the location of the event frame is described as relative to R):

(30) *John was in a quandary - it was raining - he had caught a cold on the previous occasion - he would see her (anyway) on the following day.*

In this sentence, the circumstances described by *it was raining, he had caught a cold on the previous occasion,* and *he would see her (anyway) on the following day* are all related as seen from John's perspective at a particular moment in the past in which he was contemplating his situation. The effect of the Secondary Past Tense is, that it takes us back to this moment.

A sentence such as

(31) *It was raining*

can be analyzed as meaning "[it was raining] is a fact", but also as "[it is raining] was a fact". In the first case, the past verb form *was* is the expression of a π_2-operator with the value Past Tense, and in the second case the same form is used as the expression of a π_3-operator value which I will call *Past Mood*, as it situates the evaluation time for the validity of the pro-

position in the past. The same past form *was* thus has two diametrically opposed functions. As the expression of Past Tense, it presents a past event as a present fact, and metaphorically speaking brings the past to the present. As the expression of Past Mood, the past form locates the evaluation time in the past, and seems to take us (and our present awareness) to the past.

In light of his own explanation, I disagree with Lyons's classification of the first phrase in (30) as indicating (Primary) Past Tense. The past form *was* can only be interpreted if a reference point R has already been established in the context. Even if it is the opening sentence of a novel, such a past form is then used to suggest that we are in the middle of an ongoing story. The deictic centre R is thus already located in the past in the first phrase, and the past form *was* should be interpreted as the expression of Past Mood.

Apart from the moment of speech S, the Speaker may thus choose another point R as the deictic centre for the distinctions indicated by operators of the π_2-layer.[60] The use of a past form as the expression of a modal operator of the π_3-layer presupposes that the Addressee must be able to locate R, either through the presence of adverbials, elements in the previous discourse, or the broader context of the utterance. Even without a past form to indicate that R is not S, the previous discourse may be such that the deictic centre is nevertheless understood to be located elsewhere, as would be the case with a historical present used in a narrative context.[61] Some languages do not mark Past Mood on the verb at all, but have other devices (often adverbial) to introduce a reference point different from the moment of speech. In the absence of clues pointing at a deviating deictic centre, S and R coincide by default.

The representation of Past Mood at the propositional layer has the advantage that we can thereby explain some other modal uses of tense forms. In the same way that R can be located at different moments on a time axis, the

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60. Thieroff (1992: 86) uses the concept of deictic projection in a similar way in his description of the verbal system in German. His *Orientierungszeit* 'Orientation Time' refers to the reference point or interval R. Thieroff uses the term *Referenzzeit* 'Reference Time' only in relation to Perfect Aspect.

61. See Dahl (1983: 116) for a definition of *narrative context*. It should be noted that a shift in deictic centre may involve other than temporal factors. Spatial deictic expressions sometimes relate to a place other than that where the speech act is performed. The evaluating source for subjective modal expressions is likewise not necessarily the Speaker.

reference point may also reside in other worlds than the present one. When talking about hypothetical or imaginary situations, Speakers of a number of languages use past verb forms to indicate that the reference point R is not located in the same world as S (see Fleischman 1989: 14). Subjective epistemic distinctions may be described by quantifying R over different worlds, after which it is possible to make statements of the type: X is true for all Rs/for most Rs/for some Rs, etc.[62]

Genericity is here taken to represent a subjective epistemic evaluation, involving personal commitment to the eternal truth of a proposition. Other modal distinctions like Evidentiality or Volitional Modality are not directly concerned with the location of R, which seems to coincide with S in most (or all) utterances expressing the source or the desirability of the propositional content.

3.3.6. The Clause C_i

In section 3.2.4.1 I have argued against the representation of the Basic Illocution by an abstract predicate. I have emphasized the structural continuity which can be perceived in the gradual build-up of the E-structure. At the layer of the Clause C_i, the proposition X_i is provided with a Basic Illocution by a π_4-operator, optionally modified by an additional π_4-operator or by σ_4-satellites. To account for the rather large number of conventionalized 'ways of putting things', I introduce the concept of *Communicative Pattern*.

Each Speech Act type is associated with one or more Communicative Patterns, in which fixed formal aspects of the E-structure are coded. These formal aspects always include the Basic Illocution as determined by a π_4-operator, (additional) prosodic information, and the possible degree of complexity of the E-structure. Some Communicative Patterns involve the obligatory use of an illocutionary converter (σ_4-satellite), or the embedding of a reduced E-structure under a performative or modal predicate which is inflected for the first person Present Tense. In most Communicative Patterns information concerning Topic and Focus assignment will also be given. In

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62. Vet (1992) suggests capturing grammatically expressed modal qualifications concerning the truth value of the proposition by quantificational operators on the π_3-level.

principle, any obligatory presence or absence of operators, satellites, syntactic or pragmatic functions can be specified in a Communicative Pattern.

Communicative Patterns are not represented by operators, mainly because they do not seem to belong to a closed class, but also because of their possible influence on all layers of the E-structure. It is an open question how many specific Communicative Patterns need to be recognized in a given language. As I see it, the answer to this question can only be approximated through detailed corpus-based investigations. There will certainly be social and even individual differences between Speakers of the same language. The idea is that all Speakers have a considerable number of preconceived Communicative Patterns to facilitate their linguistic interaction. Communicative Patterns may themselves be part of Discourse Patterns, which are adapted to specific situations.

3.3.7. The Expression E_i

The expression variable E_i is restricted by the Clause C_i. Extra-clausal π_5-operators account for special particles or verb forms used to organize the coherence in a stretch of discourse.[63] Extra-clausal σ_5-satellites represent the lexical means of indicating interclausal relationships. Typical examples include: *first of all, in response to your question, to conclude my story* - i.e. satellites which are used to structure the discourse (see also section 3.1.2).

The complete model, including the adaptations suggested in this chapter, is given in (32):[64]

(32) $\pi_5E_i:[\pi_4C_i:[\pi_3X_i:[\text{extended predication}](X_i):\sigma_3(X_i)](C_i):\sigma_4(C_i)](E_i):\sigma_5(E_i)$

$\pi_2e_i:[\pi_1c_i:[\pi_\theta f_i:[(x_1),(x_2),...(x_n)](f_i):\sigma_\theta(f_i)](c_i):\sigma_1(c_i)](e_i):\sigma_2(e_i)$

---

63. For an example of the grammatical marking of interclausal relationships I refer to De Vries's description of clause combining in oral texts of Trans-New Guinea languages (De Vries 1993).

64. For the sake of simplicity, the predicate variable f_i and the proposition variable X_i can be replaced by p_i and P_i respectively, in which case the representational variables are p_i (predicate), c_i (core), and e_i (extended), and the interpersonal ones P_i (proposition), C_i (clause), and E_i (expression).

The symbols π and σ indicate the positions for operators and satellites. The functions of the operators (π) and satellites (σ) in the updated version of the model are summed up below:

π_0, σ_0 Predicate operators and satellites. Modify a predicate.

π_1, σ_1 Core predication operators and satellites. Specify an event frame and define the relationship of the SoA (as denoted by the nuclear predication) to this event frame in terms of quality, polarity and aspectuality.

π_2, σ_2 Extended predication operators and satellites. Localize the core predication with respect to a reference point R in terms of place, time, and actuality.

π_3, σ_3 Proposition operators and satellites. Specify how the information presented in the extended predication must be evaluated in terms of validity, probability and desirability.

π_4, σ_4 Illocutionary operators and satellites. Specify the Illocutionary Force.

π_5, σ_5 Expression operators and satellites. Provide information concerning the position of the expression in the larger discourse.

Table 6 presents all variables and the structural units to which they refer:

Table 6. Variables of the E-structure

Variable	Structural unit
x_i	term
f_i	basic or derived predicate
c_i	core predication
e_i	extended predication
X_i	proposition
C_i	clause
E_i	expression

3.4. Conclusions

A linguistic theory must be applicable to natural languages. This implies that the theoretical concepts should be defined in a clear and consistent way. In this chapter I have evaluated how TMA distinctions are defined and used within FG. The model of the underlying layered clause structure has been subjected to a critical examination, to investigate how its applicability and internal consistency could be improved.

The most important conclusions of the theory-internal analysis are:

(i)   Definitions of TMA values must be meaningfully related to the layers in the underlying E-structure.

(ii)   Types of predicate formation which have an entirely predictable effect, for instance on the Aktionsart of the input-predicate, may be represented by π_θ-operators or σ_θ-satellites.

(iii)   The core predication represents a structural entity with its own operators and satellites, and must be identified with a separate variable (c_i).

(iv)   The model needs to distinguish between the communicated content (including the communicated illocution) represented by the Clause (C_i), and the complete utterance, represented by the Expression (E_i).

(v)   The function of verb forms to situate an event in the past (Past Mood) is different from the function of verb forms to indicate that an event occurred in the past (Past Tense), and thus should be represented on the π_3- rather than the π_2-layer.

The suggested modifications lead to a quite complex E-structure, but it must be noted that the full complexity of the model will be perceived very rarely, if at all, in a single utterance. In most expressions, the temporal complexity is reduced by the coincidence of S and R, the event frame and R, or S, R, and the event frame.[65] The distinction between Aktionsart at the layer of

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65. For the expression of *Perspectivity*, such as in the English statements *he is still sitting in his chair* and *he has left already*, the complexity of the E-structure

(continued...)

the nuclear predication (π_0), Aspect at the layer of the core predication (π_1), Tense at the layer of the extended predication (π_2), and Past Mood at the layer of the proposition (π_3), for instance, is necessary to account for all meanings related to temporal structure.

The goal of providing strict, mutually exclusive definitions directly related to the E-structure does not preclude the possible interaction of different categories. The kind of interaction involved is partially determined by language-specific rules, and will be discussed in the second part of this study in relation to the verbal system of Arabic.

As a consequence of the application of rigid definitions, many forms which function at more than one layer will have to be described as polysemous.[66] In FG terms, this means that the expression of these forms is intermediated by auxiliary μ-operators. If in a particular language both Progressive and Habitual Aspect, for instance, are expressed by the same imperfective form, it will be stated that this language has the possibility of expressing Progressive Aspect as the value of a π_1-operator, and Habitual Aspect as the value of a π_2-operator. In the expression component both values are replaced by the same type of auxiliary μ-operator, which then maps the imperfective inflection onto the verb.

The adoption of this 'multiple-meaning' approach does not imply that the uniformity of expression of the two forms is looked upon as a mere coincidence. After a careful synchronic description in which all separate functions are recognized, it is entirely possible to investigate why particular TMA values are expressed by the same form.

65(...continued)
is increased to include simultaneous reference to an R', located before or after R in time, or in another possible world. For a discussion of the complexity involved in the expression of Perspectivity I refer to Van Baar (1990).

66. See Kinberg (1991) for a discussion of polysemy in TMA systems.

4. The verbal predicate

4.0. Introduction

In all varieties of Arabic and also in other Semitic languages a predicate consists of a consonantal *root* which is moulded into a morphological *pattern*. The root is associated with a rather vague semantic notion. Concrete meaning is achieved by combining the root with one of the morphological patterns. The pattern determines the categorial status of the resulting word, and co-determines its qualitative and quantitative valency.

In Arabic, roots are most often triconsonantal. The root $\sqrt{\check{s}rb}$, for instance, conveys the general idea of drinking. Some predicates based on this root are:

$\check{s}arib_V \ (x_1)_{Ag} \ (x_2)_{Go}$	'to drink something'
$\check{s}arrab_V \ (x_1)_{Ag} \ (x_2)_{Go} \ (x_3)_{Ref}$	'to give someone something to drink'
$ta\check{s}arrab_V \ (x_1)_{Proc} \ (x_2)_{Go}$	'to soak up, to absorb something'
$\check{s}urba_N \ (x_1)_{\theta}$	'drink, sip, potion (of a medicine)'
$\check{s}arr\bar{a}b_N \ (x_1)_{\theta}$	'drunkard, heavy drinker'
$\check{s}ar\bar{\imath}b_A \ (x_1)_{\theta}$	'drinkable, potable'
$ma\check{s}raba_N \ (x_1)_{\theta}$	'drinking place, water hole'
$\check{s}\bar{a}rib_N \ (x_1)_{\theta}$	'drinker'
$ma\check{s}r\bar{u}b_N \ (x_1)_{\theta}$	'drink, beverage'

This chapter will go into the morphological and semantic characteristics of the ten most frequent verbal patterns in Arabic. Section 4.1 introduces the derivational system and will examine the distribution and productivity of the individual patterns. Section 4.2 summarizes the FG approach to verbal semantics and will provide some basic knowledge on Arabic verb forms (section 4.2.3). The literature on the semantics of verbal patterns in CA/MSA will be reviewed in section 4.3. The verbal patterns in MA dialects are similar to those in CA/MSA. Some differences between the CA/MSA and MA derivational systems will be mentioned in section 4.4.

Section 4.5 discusses the representation of the derived verb stems in FG. Two earlier FG accounts of root and pattern systems will be evaluated. Junger's investigation of verbal derivation in Modern Hebrew suggests an

organization of the lexicon according to classes of roots which occur in the same group of verbal patterns (Junger 1987). This organizing principle will be applied to small samples of Modern Standard and Egyptian Arabic verbs. In view of the large number of verb classes and the rather weak semantic unity within the classes, Junger's proposal is not adopted for Arabic. Her classificational method may prove useful in further research on the derived verb stems, however.

Moutaouakil (1988) represents verbal derivation in MSA by predicate formation rules, which may take basic or derived predicates as input. Moutaouakil's approach is adopted in this study, and will be elaborated by a diversification of the rules. I will furthermore propose to distinguish between *incidental* and *recurrent* predicate formation rules. Rules of the first type account for the observed regularities in the derivational system, which allow us to interpret unfamiliar words. Occasionally, these rules are used to form new predicates, which are then listed in the lexicon.

Recurrent predicate formation rules account for highly regular types of derivation. The output of these rules is entirely predictable in terms of meaning and function, and recurrently derived predicates do not need to be listed in the lexicon. With a few exceptions, I consider the Arabic verbal patterns to be applied by incidental predicate formation rules, as most derived verbs are lexicalized. Once these verbs are formed, they have to be listed in the fund in order to use them adequately. This means that verbal derivation in Arabic is considered to be of little importance for the organization of the mental lexicon, and mainly relevant for the etymology of verbal meaning.

4.1. Roots and patterns

4.1.1. Verb stems in CA and MSA

It is customary to indicate the root consonants with the Arabic letters 'f', 'ɛ', and 'l' from the root √fɛl, which is associated with the concept of general activity ('doing, making'). In the representation of a morphological pattern, these consonants indicate the position of the first, second, and third root consonant of any root that may occur in this particular pattern. The verbal patterns of Arabic are usually indicated with Roman numbers. Sometimes, especially in comparing the Arabic derivational system with other

Semitic languages, the patterns are named after their morphological charac-
teristics.[67] This morphological characterization is provided for some of the
verbal patterns in table 7, as it gives more insight in the build-up of the
derivational system than the notation with Roman numbers. The Roman
numbers are preferred in this study, since they are predominant in dictio-
naries and grammars of Arabic.

Table 7. The morphological relations between CA/MSA verb patterns

Abbr.	Characterization	Number	Form
G	Ground (without affixes)	I	*faɛal/faɛil/faɛul*
Gt	Ground + infix /-t-/	VIII	*iftaɛal*
D	Doubled middle consonant	II	*faɛɛal*
tD	Doubled + prefix /t-/	V	*tafaɛɛal*
L	Lengthened first vowel	III	*fāɛal*
tL	Lengthened + prefix /t-/	VI	*tafāɛal*
C	Causative[68]	IV	*'afɛal*
Ct	Causative + prefix /st-/[69]	X	*istafɛal*

The upper case letters in the first column of table 7 stand for the morpho-
logical or functional characterization of the patterns, which are given in the
second column. For the more complex derivational patterns the notation is

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67. Macdonald (1963) argues for the use of this more insightful notation in
grammars of Arabic.

68. This form is sometimes indicated by S, Š, or H according to its realization
in other Semitic languages with the prefixes /s-/, /š-/, or /h-/. In MSA/CA the causa-
tive form is marked by the prefix /'/.

69. Macdonald (1963: 471) explains the occurrence of the prefix /st-/ in the Ct
form as follows: "It may be that Arabic's C was at one stage formed with the
Eastern Semitic preformative /s-/, but the westward move of the language intro-
duced the preformative /'/." As the result of metathesis *itsafɛal* developed into
istafɛal.

extended with a lower case letter, indicating that the mediopassive/reflexive indicates the equivalent Roman number and the fourth column presents the form of the pattern in combination with the root √fɛl. The CA/MSA patterns VII and IX are not included in the table, as they have no parallel t-patterns. Pattern VII (*infaɛal*) is characterized by the prefix /n-/. Pattern IX (*ifɛall*) has a doubled final consonant. CA/MSA patterns XI - XV are extremely rare (Fischer 1972b: 89) and are not discussed here.

Roots with a so-called *weak* consonant (/w/ or /y/) and roots with identical middle and final consonants have similar patterns according to slightly modified schemes, which need not concern us here. Roots with four consonants have a reduced number of adapted patterns (Fischer 1972b: 90).

4.1.2.   The verbal patterns in CA and MSA

The ten most common verbal patterns in CA and MSA are examplified in table 8, which presents all existing verbs related to the roots √qtɛ, √ɛlm, √šrf, and √hmr. The translations in table 8 are in the infinitive form, but the Arabic verbs, which do not have a special infinitive form, are represented by the stem of the suffix verb set.[70]

Roots do not necessarily occur in all morphological patterns. According to Al-Qahtani (1988: 162), who investigated the verbs mentioned in Wehr's dictionary (Wehr 1974), only four roots (√hkm, √hwl, √qsm, and √qtɛ) appear in as many as nine of the ten common verbal patterns. Verbs based on pattern I are most frequent. Only 5 percent of the derived verbs are based on a root which does not occur in one of the three types of this pattern. To give an indication of the frequency of verbal patterns, some of Al-Qahtani's findings are quoted in table 9.

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70. The stem of the suffix verb set is almost equivalent to the form of the third person masculine singular (*faɛala*), for which only an extra /-a/ is added. This form (i.e. the stem + /-a/) is also regularly used as the citation form, but even then translated as an infinitive. The functions of the suffix verb set will be described in section 5.3.

Table 8. The ten most common verbal patterns in CA/MSA

Number	Pattern	Example	Translation
I	faɛal	*qaṭaɛ*	to cut, to divide, to break off
	faɛil	*ɛalim*	to know
	faɛul	*šaruf*	to be highborn
II	faɛɛal	*qaṭṭaɛ*	to cut into pieces, cut up
		ɛallam	to teach
		šarraf	to make noble, to honor
		ḥammar	to redden, color or dye red
III	fāɛal	*qāṭaɛ*	to dissociate, part company
		šāraf	to vie for precedence in honor or nobility, to approach, to control
IV	'afɛal	*'aqṭaɛ*	to make or let someone cut
		'aɛlam	to let know, notify, inform
		'ašraf	to be high, to look down
V	tafaɛɛal	*taqaṭṭaɛ*	to be cut off, to be severed
		taɛallam	to learn, study
		tašarraf	to be honored
VI	tafāɛal	*taqāṭaɛ*	to separate, go apart
VII	infaɛal	*inqaṭaɛ*	to be cut off, get separated
VIII	iftaɛal	*iqṭaṭaɛ*	to take a part, borrow
IX	ifɛall	*iḥmarr*	to turn red, redden, blush
X	istafɛal	*istaqṭaɛ*	to request as a fief
		istaɛlam	to inquire
		istašraf	to look up

Table 9. The distribution of the ten most common verbal patterns

Pattern	Wehr	200 most frequent	Qur'ān
I	40.07	58.50	64.12
II	14.28	8.50	6.45
III	5.14	4	2.13
IV	10.56	11.50	18.17
V	10.80	4.50	1.91
VI	4.44	1	0.54
VII	2.93	-	0.25
VIII	6.94	9	4.62
IX	0.19	-	0.05
X	4.67	3	1.76

The first column in table 9 indicates the distribution of the verbs mentioned in Wehr, as presented by Al-Qahtani (1988). The second column gives the distribution for the 200 most frequently used verbs, also quoted from Al-Qahtani.[71] The third column presents the results of Chouémi (1966: 233), who counted the frequency of verbal patterns in the Qur'ān.

Not surprisingly, pattern I is by far the most frequent in all columns. Verbs with pattern II and V, rather well represented in Wehr, have a much lower percentage among the 200 most common verbs and in Qur'ānic usage. Pattern IV is quite frequent in the list of common verbs, and pattern

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71. Al-Qahtani's most frequent verb list is compiled from Brill (1940), who counted all the words occurring in a selection of Arabic daily newspapers, and Landau (1959), who counted the words in a sample of twentieth-century Egyptian prose. Frequency counts based on other corpora may result in different percentages, but the general distribution of a high number of pattern I verbs, much lower, but still considerable numbers for II, IV and VIII, and rather low percentages for III, V, VI, VII, IX and X will probably be confirmed.

IV verbs occur much more often than all the other derived verbs in the Qur'ān. Although the figures in table 9 may not be entirely representative, they give an indication of the relatively low frequency of most of the derived verbal patterns.

4.1.3. The productivity of the derivational system

According to McCarthy (1981: 384), roots appear in given verbal patterns on the basis of idiosyncratic properties which are not completely predictable on semantic grounds. New forms do occur, however, and loanwords are easily incorporated into the system. Speakers of MSA are able to extend a root which is familiar in one pattern to others, and they usually agree on the interpretation of the result.

Statements concerning the productivity of the derivational patterns are contradictory. Beeston (1970: 75) remarks that pattern VII and IX are the least productive verbal patterns in MSA, and that II, VI and X are still used to form new verb stems. Blohm (1990: 15), on the other hand, states that pattern X is almost never used to form new verbs, and regards II, V and VII as the most productive verbal patterns. Stetkevych (1970: 39) mentions pattern II, III, V, VI and X as the most frequent forms employed in the formation of new verbs. Although they all agree on the productivity of pattern II, the lack of consensus concerning the other patterns shows that the relative productivity is not easy to establish.

Most patterns have several meanings, and a pattern may be productively used to express one of those meanings, but not the other(s). It is also possible that the semantics of a given verbal pattern may only combine with a restricted set of roots. If this is so, the pattern will not be very common, but nevertheless productive. The authors cited above do not explain what they exactly mean with 'productivity', and how they determine which forms are most productive. It is not clear whether they actually counted the relative frequency of new verb stems, and if so, in which corpora or word lists. Definite claims regarding the productivity of verbal patterns thus await further research.

4.2. Verbal semantics

4.2.1. The typology of SoAs in FG

SoAs are described on the basis of the presence or absence of each of the five SoA-features [± dyn(amic)], [± tel(ic)], [± mom(entaneous)], [± con(trol)], and [± exp(erience)]. [+ dyn] SoAs involve internal dynamism, and some input of energy is necessary to keep the SoA going. [- dyn] SoAs are stative: they lack internal dynamism, and are considered able to go on without any substantial input of energy or effort. Sentence (1) gives an example of a [- dyn] SoA:

(1)   *The substance is red.*

A [+ dyn] SoA is described by (2):

(2)   *The clock is ticking.*

[+ dyn] SoAs may be [+ tel] or [- tel]. [+ tel] SoAs reach a natural terminal point, if fully achieved. The [+ dyn] SoA described in (2) is [- tel]. The SoA represented by the sentence in (3) is [+ tel]:

(3)   *John is painting a portrait.*

[+ tel] SoAs may be [+ mom] or [- mom]. [+ mom] SoAs are conceptualized as having no duration, in the sense that their beginning coincides with their terminal point. The [+ tel] SoA in (3) is [- mom]. An example of a [+ mom] SoA is:

(4)   *The climber reached the summit.*

The features [± dyn], [± tel], and [± mom] determine the Aktionsart of the SoA, and will be discussed more extensively in section 6.2.1.

[+ con] SoAs are characterized by a first argument with the power to determine whether the SoA obtains or not. [+ con] as well as [- con] SoAs may be [- dyn] or [+ dyn], [- tel] or [+ tel], and [- mom] or [+ mom]. An example of a [- con] SoA is described in (5), while (6) depicts a [+ con] SoA:

(5) *Bill fell asleep.*
(6) *Mary opened the door.*

[+ exp] SoAs cannot obtain but through the sensory or mental faculties of some animate being. The [+ exp] feature may apply to all subclasses as defined by the other features, but seems to be most relevant for [- con] SoAs. [+ exp, - con] SoAs are treated differently from [- exp, - con] SoAs in some languages. An example of a [+ exp] SoA is:

(7) *John dreamed about his girlfriend.*

Several tests may be used to determine whether each of the above features applies to a particular SoA. These tests are often necessary, since languages vary in how they represent events and situations linguistically. A complete survey is beyond the requirements of this study. For a more detailed account I refer to Dik (1989a: 91-100).

4.2.2. Semantic functions

Two of the SoA-features mentioned above are relevant for the semantic function of the first argument (A^1). The possible semantic functions of first arguments can be described as follows (see also section 2.1.3):

> Agent (Ag): A^1 of a [+ con, + dyn] SoA.
> Positioner (Po): A^1 of a [+ con, - dyn] SoA.
> Force (Fo):   instigating A^1 of a [- con, + dyn] SoA.
> Processed (Proc): undergoing A^1 of a [- con, + dyn] SoA.
> Zero (ø): A^1 of a [- con, - dyn] SoA.

Dik (1989a: 101) gives the following examples:

(8) a. *John* (Ag) *was reading a book.*
     b. *John* (Po) *kept his money in an old sock.*
     c. *The earthquake* (Fo) *moved the rock.*
     d. *The rock* (Proc) *moved.*
     e. *The cup* (ø) *was on the table.*

The semantic functions for second (A^2) and third (A^3) argument positions are described as follows (Dik 1989a: 103):

> Goal: A^2 affected or effected by the operation of an Agent, Positioner, or Force.
>
> Recipient: A^2 or A^3 into whose possession something is transferred.
>
> Location: A^2 or A^3 indicating the place where something is located.
>
> Direction: A^2 or A^3 towards which something moves/is moved.
>
> Source: A^2 or A^3 from which something moves/is moved.
>
> Reference: A^2 or A^3 with reference to which a relation is said to hold.

Some example sentences with these functions are:

(9)   a.   *The enemy occupied the city* (Go).
      b.   *Mary apologized to Peter* (Rec).
      c.   *The roof rests on six pillars* (Loc).
      d.   *The tree fell into the river* (Dir).
      e.   *The apple fell from the tree* (So).
      f.   *The boy resembles his father* (Ref).

σ_1-satellites specify additional participants, means, manner, or spatial orientation, and are characterized by semantic functions as well. These semantic functions are Beneficiary, Company, Instrument, Manner, Speed, Quality, Source, Path, and Direction. The names of these semantic functions speak for themselves in most cases. It should be noted though, that the semantic function Beneficiary, for instance, may also be used for a satellite which indicates the person against whose interest the SoA is effected. The semantic function terminology should thus be interpreted on a more abstract level than the ordinary meaning of the terms.

4.2.3.   The basic verb forms in CA and MSA

The CA/MSA verb occurs in several basic forms. The two main verb sets are here indicated as the *suffix* and *prefix set*, on the basis of their characteristic morphology. The two verb sets, and *verbal adjectives* or *participles* can be *active* or *passive*. The corresponding forms for pattern I verbs are represented in table 10:

Table 10. The CA/MSA pattern I verb forms

Form	Suffix set	Prefix set	Participle
Active	*faɛal/faɛil/faɛul*	*yafɛal/yafɛil/yafɛul*	*fāɛil*
Passive	*fuɛil*	*yufɛal*	*mafɛūl*

The functions of the suffix, prefix and participle forms will be described in chapter 5 and 6. Understanding the semantics of the verbal predicate requires some knowledge of the so-called active/passive opposition in Arabic. This is discussed below.

According to Dik (1989a: 220), a true passive construction must have the same valency as the corresponding active construction. This implies that the possibility of expressing Agent or Force is one of the necessary properties of a passive. Most Arabic grammars state that agentive phrases do not normally occur in combination with fuɛil- or yufɛal-forms. An instigating entity is rarely indicated by prepositional phrases with *li-*, *min*, and *bi-* (Brockelmann 1913: 143, Fischer 1972b: 98). These prepositional phrases are considered instead to introduce the instigating entity as the Cause, Source, or Instrument of the event described by the SoA. They are more frequent in MSA than in CA, possibly as a result of the translation of similar constructions in French and English (Monteil 1960: 237). It is not clear whether expressions with a fuɛil- or yufɛal-form and a pseudo-agentive phrase of this type are functionally equivalent to true passive sentences with an overtly expressed first argument.

Bulos (1965: 31) calls the term passive misleading. He prefers the Arabic term *majhūl*, literary meaning 'unknown', which indicates that the first argument of the equivalent active construction is not expressed. According to him, this interpretation explains the fact that monovalent verbs (i.e. verbs with one argument) also occur in the majhūl-form, as in sentence (10):[72]

(10) *yusāru*   *'ilay-*   *hā*
      travel:PASS.3.M.SG   toward- her
      'There is/was travelling toward her.'

---

72. The examples in (10), (11) and (12) are from Fischer (1972b: 98).

Di- and trivalent verbs have majhūl-forms in which a first argument with the semantic function Processed corresponds to the Goal (11) or Recipient (12) in the active frame:

(11) a. <u>qatala</u>   'ax-   ā-   ka
      <u>kill</u>[73]:3.M.SG brother- ACC- your
      'He killed your brother.'

    b. <u>qutila</u>   'ax-   ū-   ka
      <u>kill</u>:PASS.3.M.SG brother- NOM- your
      'Your brother was killed.'

(12) a. <u>'aɛṭā</u>-   ka l- kitāb- a
      <u>give</u>:3.M.SG- you the- book- ACC
      'He gave you the book.'

    b. <u>'uɛṭīta</u>   l- kitāb- a
      <u>give</u>:PASS.2.M.SG the- book- ACC
      'You were given the book.'

Retsö (1983: 22) recognizes six different majhūl-constructions, two of which are described as truly passive. The others are subjectless, as in (10), or have a first argument which is not equivalent to the Goal-term in the corresponding active construction.[74]

Within FG, Retsö's true passive types can be represented by the assignment of the syntactic function Subject to the Goal-term in the corresponding active sentence (see Dik 1989a: Chapter 10). Impersonal majhūl-constructions can be treated by assuming that no Subject has been assigned. In all cases, the non-assignment of Subject to the first argument accounts for the passive morphology. If there is no Subject assignment at all, the passive verb form is inflected according to the most neutral form, which is the third person masculine singular.[75] In majhūl-constructions, the involve-

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73. The translations of suffix verb forms are underlined in the glosses.

74. The first argument in this type of majhūl-construction may be a satellite in the corresponding active form, or an implied Goal-argument of an intransitive verb, as in *julisa julūsun ḥasanun* 'A nice sitting was sat'='There was a nice sitting' (Retsö 1983: 23).

75. This provisional analysis is inspired by De Groot (1989: 100). It allows for a similar treatment of all majhūl-constructions, but does not explain why the first argument is hardly ever expressed in combination with a majhūl-form.

ment of an instigating entity is always implied. This distinguishes the majhūl-form from some of the passive-like reflexive and mediopassive verbal patterns, which do not necessarily imply an instigating Agent or Force.

After this brief introduction to the main verb forms, I will now turn to the description of the ten most common verbal patterns in CA and MSA.

4.3. The verbal patterns in CA/MSA

The relation between verbal patterns and the meaning of verb forms is complex. In section 4.1 I already mentioned that the exact meaning of a verbal pattern is difficult to define, as this meaning manifests itself differently in combination with the various semantic types of root. Some patterns may have more than one associated meaning. This section summarizes descriptions of the ten most common verbal classes in CA/MSA, and interprets these descriptions in terms of the SoA-features and semantic functions used in FG.

I will not try to produce a single unified meaning for each pattern. Although some of the different uses of one pattern may be related to the same underlying semantic principles, they must all be represented separately if we are to arrive at an accurate description. The ascription of a single, all-encompassing meaning to each pattern may contribute to our understanding of historical semantics, but does not simplify the synchronic account of the functions involved. In my view, an adequate FG representation of verbal patterns in CA/MSA must deal with the different uses of each pattern separately. After a survey of the descriptions of verbal patterns in CA/MSA (4.3) and MA dialects (4.4), I will discuss their treatment in FG (4.5).

4.3.1. Pattern I

Pattern I is realized as faɛal, faɛil, or faɛul. Traditionally, the three types of pattern I are associated with different meanings. The most common pattern I type, faɛal, is said to be used primarily for divalent verbs, although monovalent verbs may also have this vowel pattern. Some examples are *darab*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to beat or hit someone or something', *katab*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to write something', and *qaɛad*$_V$ $(x_1)_{Ag}$ 'to sit down'.

According to Al-Qahtani (1988: 176), verbs with the faɛil-pattern describe processes in most instances. The English translation of these verbs is often 'to become + adjective', such as *samin*$_V$ $(x_1)_{Proc}$ 'to become fat'. Some faɛil-verbs can be described as processes developing towards a natural endpoint, but others are inceptive in the sense that their suffix set refers to the inception of a state or the beginning of an activity.

A number of verbs with the faɛil-pattern are [+ exp]. Examples include *samiɛ*$_V$ $(x_1)_{ProcExp}$ $(x_2)_{Go}$ 'to hear something', *fahim*$_V$ $(x_1)_{\theta Exp}$ $(x_2)_{Go}$ 'to understand something', and *ḥazin*$_V$ $(x_1)_{\theta Exp}$ 'to be sad, to grieve'. The same pattern is used for some verbs of motion, such as *rakib*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to mount or ride (a horse), to board (a ship, train, etc.)', and for temporary states, such as *mariḍ*$_V$ $(x_1)_{\theta/Proc}$ 'to be or become ill'. Transitive actions which affect the first argument may also be expressed by verbs with the faɛil-pattern. An example of such a verb is *šarib*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to drink something'.

Chouémi (1966: 64) argues that the faɛil-verbs all describe some kind of internal action, in divalent verbs defined as action which primarily affects the first argument. M. Cohen (1924b) describes the divalent verbs in the faɛil-group as *verbes déponents internes* (see also Fleisch 1975: 156). FG does not recognize a special class of transitive actions which have their primary effect on the first argument. As the transitive verbs of the faɛil-group are only distinguished from the transitive verbs in the faɛal-group by their form, and not by their treatment in grammar, the recognition of such a special subclass is not necessary for CA/MSA verbs.

Verbs with the faɛul-pattern often denote more permanent qualities, such as *badun*$_V$ $(x_1)_\theta$ 'to be fat, corpulent'. Chouémi (1966: 82) did not find support for a differentiation of meaning between the faɛil- and faɛul-pattern in the Qur'ān, and thinks of faɛul as just a variant of faɛil. In Wehr, faɛul-verbs are more often translated with 'to be + adjective', and faɛil with 'to be or to become + adjective', but there are many exceptions, such as *jadub*$_V$ $(x_1)_{\theta/Proc}$ 'to be or become dry' and *baġiḍ*$_V$ $(x_1)_\theta$ 'to be hated, hateful, odious'.

It seems that neither the difference between faɛil and faɛul, nor the difference between faɛil/faɛul and faɛal, can be described conclusively. Only few roots may occur in more than one of the ground patterns. Examples are √hzn, used in both *hazan*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$ 'to make someone sad' and *hazin*$_V$ $(x_1)_{\theta/ProcExp}$ 'to be sad; to grieve, mourn', and √kbr, in *kabar*$_V$ $(x_1)_\theta$ $(x_2)_{Ref}$ 'to exceed someone in age, to be older than someone' and *kabur*$_V$ $(x_1)_{\theta/Proc}$ 'to be or become great, big, large; to grow'. In the examples, the differentiation of meaning is consistent with the expected divalent frame for the faɛal-

pattern, and a monovalent frame for the faɛil- or faɛul-pattern. The semantic relation between *hazan*$_V$ and *hazin*$_V$ is different from the one between *kabar*$_V$ and *kabur*$_V$, however, as the exact meaning relationship between faɛal- and faɛil/faɛul-verbs of the same root is generally unpredictable.

4.3.2.   Pattern II

Derived verbs with pattern II (faɛɛal) can be roughly divided into three groups. The verbs in the first group are semantically related to pattern I verbs with the same root (section 4.3.2.1). The second group consists of pattern II verbs which are derived from a noun (section 4.3.2.2). The verbs in the third group show no semantic relation with either verbs or nouns which are based on the same root. They refer to the utterance of special formulaic phrases, and are described in section 4.3.2.3.

4.3.2.1   Deverbal pattern II

The deverbally derived pattern II verbs may be further differentiated according to the semantics of the corresponding pattern I verbs. The following observations are made by Al-Qahtani (1988):

(i)   If pattern I is monovalent, pattern II often has a factitive function, resulting in a derived divalent verb:

   I   *samin*$_V$ $(x_1)_{\theta/Proc}$ 'to be or become fat'
> II   *samman*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$ 'to make (a person or an animal) fat'

(ii)   If pattern I is divalent, pattern II may:

    - result in a trivalent verb:

   I   *samiɛ*$_V$ $(x_1)_{ProcExp}$ $(x_2)_{Go}$ 'to hear something'
> II   *sammaɛ*$_V$ $(x_1)_{Cau}$ $(x_2)_{ProcExp}$ $(x_3)_{Go}$ 'to make or let somebody hear
                                            something'

    - convey the same meaning as pattern I, with added intensity or inherent repetition:

    I $qat\!ae_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to cut something'
> II $qat\!t\!ae_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to cut something into pieces'

(iii)   Pattern II may indicate plurality of the first or second argument:

      - monovalent
  I: *barak_V* $(x_1)_{Ag}$ 'to kneel', as in
       baraka l-jamalu 'the camel kneeled'
> II: *barrak_V* $(x_1$ <consisting of multiple entities>), as in
       barraka nnaɛamu 'the whole drove of camels kneeled'

      - divalent
  I: $qatal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to kill someone'
> II: $qat\!tal_V$ $(x_1)_{Ag}$ $(x_2$ <consisting of multiple entities>$)_{Go}$ 'to kill many'

Chouémi (1966: 98) ascribes a primary intensive meaning to pattern II, of which factivity, iterativity, and plurality are derived as secondary meanings. Blohm (1990: 17) mentions pattern II verbs with an intensive, extensive, or iterative meaning. With *extensive* he means the involvement of more than one first argument. Blohm recognizes an iterative component in the factitive meaning of pattern II.

    Macdonald (1963) also tries to bring several functions back to one primary meaning and argues that pattern II always involves an extension of the meaning ascribed to pattern I of the same root. Thus, intensification of an action in terms of a longer duration, the involvement of a plural Agent or Goal, or its repeated occurrence is in Macdonald's view action extended beyond the confines of the pattern I meaning. The primarily extensive usage of pattern II results in a factitive reading if the extension of the action leads to the causing of effects.

    Leemhuis (1977: 37) concentrates on the factitive function of pattern II, and differentiates it from the causative function of IV. His argumentation boils down to the statement that causativation only applies to [+ con] verbs. It involves the introduction of a new first argument with the semantic function Agent. The former first argument gets the Goal function, but is still presented as an active participant in the SoA.

    A factitive verb can be derived from a transitive or intransitive pattern I, which may be [+ con] or [- con]. Like the causative formation, the factitive formation is characterized by the introduction of a new first argument and the shift of the former first argument to Goal function. With factitive

verbs, however, the argument with Goal function is presented as inactive or uncooperative. Leemhuis relates the other functions of pattern II to aspects of the factitive meaning. This is done in a rather abstract and unconvincing way, and will not be discussed further.

Arab grammarians distinguish the intensive and extensive functions of pattern II by calling them *li-l-mubālaġati* 'for exaggeration' and *li-t-taktīri* 'for multiplication'. In this last function Greenberg (1991: 580) recognizes some of the basic characteristics of *verbal plurality*, which occur in a number of other languages. These characteristics include *partial reduplication* of the verb stem, in combination with the meaning of *temporal repetition* (now and then), *spatial dispersion* (here and there) and *natural ergativity* (plurality of the second argument in divalent verbs and plurality of the first argument in monovalent verbs).[76]

A final remark concerns the observation that pattern II is often used with exactly the same meaning as pattern I of the same root, especially in MSA. Monteil (1960: 110) suggests that this phenomenon could be explained in spoken MSA by referring to the uncertainty concerning the vocalization of the prefix verb forms of pattern I, as opposed to the fixed vocalization of pattern II. Dialect speakers with an insufficient command of MSA would thus resort to the 'safe' pronunciation of pattern II.

4.3.2.2. Denominal pattern II

Some pattern II verbs can not be derived from a pattern I verb (at least not synchronically), because the pattern I verb of the same root does not exist. In most cases these verbs can be related to a noun with the same root. The relation of the meaning of the source noun to the semantics of the verb is unpredictable, as Beeston (1970: 74) illustrates with the examples:

$qišr_N$ $(x_1)_\emptyset$ 'peel' > II $qaššar_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to peel something'
$jild_N$ $(x_1)_\emptyset$ 'skin' > II $jallad_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to bind (a book)'

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76. In Arabic, reduplicated roots may express a repetitive/intensive meaning. An example is: $šam(a)m_V$ $(x_1)_{ProcExp}$ $(x_2)_{Go}$ 'to smell something > $šamšam_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to sniff something'. Reduplication also occurs in onomatopoeic verbs, such as $tartar_V$ $(x_1)_{Ag}$ 'to chatter, prattle', $xarxar_V$ (x_1) 'to snore', and $xanxan_V$ $(x_1)_{Ag}$ 'to nasalize, speak nasally'.

The source noun is something to be removed in the derivation of $qaššar_V$ 'to peel', while it is something to be added in the derivation of $jallad_V$ 'to bind'. Still, in my view, both meanings can be subsumed under the general notion of 'doing something involving x', thus also explaining the formation of $sabban_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to soap, rub something with soap' from $sābūn_N$ $(x_1)_\theta$ 'soap', and $xayyam_V$ $(x_1)_{Ag}$ 'to camp' from $xayma_N$ $(x_1)_\theta$ 'tent'.

A different relationship is established in so-called 'ascriptive/estimative' verbs, such as:

$kidb_N$ $(x_1)_\theta$ 'lie'
> II $kaddab_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to accuse someone of lying'

$sidq_N$ $(x_1)_\theta$ 'truth'
> II $saddaq_V$ $(x_1)_{Ag/ProcExp}$ $(x_2)_{Go}$ 'to deem someone or something credible; to believe someone or something'[77]

The denominal derivation of these verbs is uncertain. There are pattern I verbs with the same root, and it is thus possible to relate the ascriptive/estimative meaning to the extensive (Macdonald 1963) or factitive (Leemhuis 1977) function of pattern II. Kropfitsch (1990: 55) argues for a denominal derivation, based on the analysis given by Arab grammarians, such as $saddaqa = ietarafa bi-sidqi qawlihi$ 'to acknowledge the truth of his statement'. Ascriptive/estimative verbs may be classified alternatively as delocutive pattern II verbs.

4.3.2.3. Delocutive pattern II

Some pattern II verbs are derived from neither pattern I verbs, nor nouns, but describe the uttering of a formulaic phrase. Examples are $kabbar_V$ $(x_1)_{Ag}$ 'to exclaim *allāhu akbar* (a religious praise)', $hallal_V$ $(x_1)_{Ag}$ 'to say *lā ilāha illā llāh* (a religious formula)', and $sallam_V$ $(x_1)_{Ag}$ 'to greet (= to say *as-salāmu ɛalaykum*)'.

For these verbs, pattern I verbs with the same root do exist, but have a totally different meaning. Moreover, most of the verbs in this group are

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77. The verb $saddaq_V$ may also be derived from the adjectival predicate $sadīq_A$ $(x_1)_\theta$ 'trustworthy'.

synonymous with pattern II verbs which do correspond semantically to the pattern I verb of the same root. They are therefore taken to derive from the locution. Larcher (1983: 246) discusses examples of delocutive verbs in other languages, such as *bisser* 'to call: *Bis!*' in French and *salutare* 'to greet' in Latin. Larcher extends the group of delocutive pattern II verbs to include the ascriptive/estimative ones on the basis of the description of these verbs given by the Arab grammarians, who explain *kaddab*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to accuse someone of lying, to call somebody a liar' as the description of the locution *yā kaddāb* 'you liar!'.

Larcher does not mention it, but the direct derivation of a verb from a conventionalized illocutionary act may be onomatopoeic, in that the verb copies the most characteristic consonants of the utterance. This seems to be the case in the religious expressions. Some verbs with four radicals, such as *ḥamdal*$_V$ $(x_1)_{Ag}$ 'to pronounce the formula *al-ḥamdu lillāh* ('praise be to Allāh')' reflect a contraction of the consonants involved in an expression as well.

4.3.3. Pattern III

Pattern III (fāeal) verbs often describe activities which require the involvement of a human entity other than the Agent. This human entity is represented as the affected Goal. In the pattern I verbs of the same root, this human entity may be expressed by a satellite with the semantic function of Recipient, Direction, Reference, Beneficiary (including adversary), or Company.

I *katab*$_V$ *(li-)* $(x_1)_{Ag}$ $(x_2)_{Go}$ $(\sigma_1{:}(x_3)_{Rec}$ $(\sigma_1))$ 'to write something (to someone)'
> III *kātab*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to correspond, exchange letters with someone'

I *mašā*$_V$ *(maea)* $(x_1)_{Ag}$ $(\sigma_1{:}(x_2)_{Com}$ $(\sigma_1))$ 'to walk (with someone)'
> III *māšā*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to keep up, to go along with someone'

If the pattern I verb selects a human second argument with Goal-function, this human entity is usually presented as more actively involved in pattern III. This results in a conative meaning which is regarded as secondary to pattern III:

    I $qatal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to kill someone'
> III $qātal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to fight (with) someone'

When pattern I denotes a quality or state, pattern III may indicate that someone makes use of this quality towards somebody else:

    I $hasun_V$ $(x_1)_\theta$ 'to be beautiful, kind, nice'
> III $hāsan_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to treat someone with kindness'

Not all pattern III verbs fit the description given above. Some examples are $sāfar_V$ $(x_1)_{Ag}$ 'to travel, make a trip; to leave' (the pattern I verb of the same root means 'to unveil oneself') and $hāwal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to try, attempt, endeavour something' (the pattern I verb of the same root means 'to change').

4.3.4. Pattern IV

Most studies of pattern IV ('afɛal) focus on its causative function:

    I $katab_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to write something'
> IV $'aktab_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ $(x_3)_{Ref}$ 'to make somebody write something'

Kropfitsch (1990: 57) stresses the need to differentiate the causative function of pattern IV from the more factitive function of pattern II.[78] According to Chouémi (1966: 128), 159 of the 301 pattern IV verbs in the Qur'ān do not have a causative/factitive meaning. Pattern IV may have the same meaning as pattern I, in which case pattern I is sometimes almost completely replaced by pattern IV, as in the derivation of pattern IV $'ahabb_V$ $(x_1)_{\theta Exp}$ $(x_2)_{Go}$ 'to love, like someone' from pattern I $habb_V$ $(x_1)_{\theta Exp}$ $(x_2)_{Go}$ 'to love, like'. Pattern IV can be derived denominally, with as many different meanings as the denominal pattern II verbs. An example is the derivation of $'afsah_V$ $(x_1)_{Ag}$ 'to celebrate Easter' from $fish_N$ $(x_1)_\theta$ 'Easter'. There are also pattern IV verbs which express (the inception of) a state. An example is $'asbah_V$ $(x_1)_{Proc}$ 'to wake up; to become, be, or happen in the morning'.

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78. For the difference between *factitive* and *causative* I refer to Leemhuis (1977), quoted in section 4.3.2.1.

*'aṣbaḥ*_V and a few similar verbs developed further as copular and auxiliary verbs with a meaning of 'to become' (see chapter 7).

4.3.5. Pattern V

According to Bulos (1965:18), pattern V (tafaɛɛal) expresses the state into which the Goal of the action denoted by II is brought by that action. He feels that the French reflexive offers a better translation of this meaning than the English passive, as in *takassar*_V $(x_1)_{Proc}$ 'to get broken', *se casser*, and *taɛajjab*_V $(x_1)_{øExp}$ 'to be astonished', *s'étonner*.[79] An example of the derivation of pattern V via pattern II is:

> I   *ɛalim*_V $(x_1)_{øExp}$ $(x_2)_{Go}$ 'to know something'
> \> II   *ɛallam*_V $(x_1)_{Ag}$ $(x_2)_{Go}$ $(x_3)_{Ref}$ 'to teach someone something'
> \> V   *taɛallam*_V $(x_1)_{Ag/ProcExp}$ $(x_2)_{Go}$ 'to study, learn something'

The derivation of pattern V from pattern II can be described as a kind of first argument reduction. The second argument in pattern II (usually a Goal, but sometimes also a Recipient) takes the position of the first argument in V. Unlike the argument reduction effected by the majhūl-forms, there is no obligatory implication of an external instigator in verbs with pattern V.

Not all pattern V verbs are derived from a pattern II verb. In these cases, pattern V often has the same meaning as pattern I. The pattern I verb *šanij*_V $(x_1)_{Proc}$ and the pattern V verb *tašannaj*_V $(x_1)_{Proc}$, for instance, are both translated as 'to contract, shrink; to suffer from convulsions'. For some roots, only pattern V verbs exist. An example is *tafannaq*_V $(x_1)_{Proc}$ 'to live in ease and affluence'.

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79. According to Cowell (1964: 238), no grammatical distinction is made in Arabic verbs between reflexive acts and spontaneous developments: what one does to one's self and what simply happens to one are equally accommodated by the mediopassive: *tɛallam*_V $(x_1)_{Ag/ProcExp}$ 'to learn (spontaneously or by self-instruction)', or 'to be taught'; *thammam*_V $(x_1)_{Ag/Proc}$ 'to have a bath = to bathe one's self' or 'to be bathed' (the examples are from Syrian Arabic).

4.3.6.   Pattern VI

Pattern VI (tafāɛal) is generally described as the reflexive of III. An example of the derivation of VI via III is:

$$\text{I} \quad qatal_V \ (x_1)_{Ag} \ (x_2)_{Go} \ \text{'to kill someone'}$$
$$> \text{III} \quad q\bar{a}tal_V \ (x_1)_{Ag} \ (x_2)_{Go} \ \text{'to fight someone'}$$
$$> \text{VI} \quad taq\bar{a}tal_V \ (x_1)_{Ag} \ \text{'to fight one another'}$$

This type of pattern VI verbs is reciprocal. Consequently, first arguments of these verbs are usually dual or plural. Majhūl-forms of pattern VI verbs are rare (they do not occur in the Qur'ān (Chouémi 1966)).

Not all pattern VI verbs are derived from a pattern III verb of the same root. A stative pattern I verb, such as $hamiq_V$ $(x_1)_\theta$ 'to be stupid', may be associated with a pattern VI verb like $tah\bar{a}maq_V$ $(x_1)_{Ag}$ 'to pretend to be stupid'. Pattern VI verbs of this type are therefore said to have a meaning of *pretence*. Some pattern VI verbs have the same meaning as pattern I of the same root, such as the verbs $faqim_V$ $(x_1)_{\theta/Proc}$ and $taf\bar{a}qam_V$ $(x_1)_{\theta/Proc}$, which both mean 'to be or become grave, serious, critical, dangerous'. An example of a denominally derived pattern VI verb is $taf\bar{a}'al_V$ $(x_1)_\theta$ 'to regard as a good omen, to be optimistic' from $fa'l_N$ $(x_1)_\theta$ 'good omen, optimistic outlook'.

4.3.7.   Pattern VII

Pattern VII (infaɛal) is described as the intransitive counterpart of a transitive pattern I verb. The (second) argument with Goal function in pattern I functions as the first argument in pattern VII. The instigator of the action may be external (as in a passive) or internal (as in a reflexive or mediopassive). External instigators are generally not mentioned (for instance in a *by*-phrase).

$$\text{I} \quad fatah_V \ (x_1)_{Ag} \ (x_2)_{Go} \ \text{'to open something'}$$
$$> \text{VII} \quad infatah_V \ (x_1)_{Proc} \ \text{'to open, to be opened'}$$

$$\text{I} \quad katab_V \ (x_1)_{Ag} \ (x_2)_{Go} \ \text{'to write something'}$$
$$> \text{VII} \quad inkatab_V \ (x_1)_{Ag/Proc} \ \text{'to subscribe, to be registered'}$$

As would be expected in view of the passive meaning of pattern VII, its majhūl-forms are quite rare. According to Chouémi (1966: 195), majhūl-forms of pattern VII are non-existent in the Qur'ān.

4.3.8. Pattern VIII

Pattern VIII (iftaɛal) resembles pattern VII in that it is directly derived from pattern I, and in that it sometimes involves argument reduction. The meaning of VIII is less predictable, however. It may be reflexive, as in the derivation of *iftaraq*$_V$ $(x_1)_{Ag/Proc}$ 'to split into many parts or groups, to become divided' from *faraq*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to separate, part, divide a group of entities', but it may also function as a medio- or quasi-passive, as in the derivation of *iġtarr*$_V$ $(x_1)_{Proc}$ 'to be blinded, misled' from *ġarr*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to mislead, deceive someone'.

Some pattern VIII verbs describe the activity of the first argument, rather than the complete SoA. A second argument with Goal-function in the corresponding pattern I verb may then be expressed by a preposition, or is left unexpressed altogether. An example is:

> I *ḥāt*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to guard, protect someone or something'
> > VIII *iḥtāt*$_V$ *(bi-)* $(x_1)_{Ag}$ $(\sigma_1: (x_1)_{Ben} (\sigma_1))$ 'to be careful, watch out, guard (over someone or something)'

The relation between pattern VIII and I may not be very obvious, as in the derivation of the pattern VIII verb *iġtāb*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to slander, calumniate someone' from the pattern I verb *ġāb*$_V$ $(x_1)_{Pos}$ 'to be or remain absent'. Some pattern VIII verbs do not have a corresponding pattern I verb or nominal form from which they may be derived synchronically (for example: *ifta'at*$_V$ $(x_1)_{Ag}$ 'to tell lies, to take violent measures').

The translation of pattern VIII is often similar to the one for pattern V or I. Only few roots have verbs with pattern VII and VIII, but if they do, the meaning of the two patterns is identical in most cases. Pattern VIII is well represented in the Qur'ān, only rarely as a majhūl-form (Chouémi 1966).

4.3.9.   Pattern IX

Pattern IX (ifɛall) verbs are commonly characterized as verbs which depict colours and physical defects. They are quite rare: Eisenstein (1990) mentions a total number of 103 pattern IX verbs in Classical Arabic.[80] He classifies these verbs on the basis of their meaning, and concludes that about half of them have the meaning of 'to be or become black/red/etc.' (*iḥmarr*$_V$ $(x_1)_{\theta/Proc}$ 'to be or become red, to blush'). The use of these colour-depicting verbs is sometimes limited to specific contexts, such as the description of body parts or the characteristic features of animals.

Only seven of the CA pattern IX verbs describe physical defects, such as *iḥwall*$_V$ $(x_1)_{\theta/Proc}$ 'to be cross-eyed, to squint'. The remainder of the CA pattern IX verbs describe activities (*iṣɛarr*$_V$ $(x_1)_{Ag}$ 'to hurry, go fast'), states (*ixṣabb*$_V$ $(x_1)_{\theta}$ 'to be rich with grass', or processes (*izharr*$_V$ $(x_1)_{Proc}$ 'to blossom'. Eisenstein does not investigate the relationship between pattern IX verbs and their possible derivational sources (i.e. a pattern I verb, noun or adjective). Not all of the verbs he mentions are currently used in MSA. Especially those which do not depict colours or defects seem to have disappeared. Not all MSA pattern IX verbs relate to a pattern I verb of the same root, but if pattern I and IX of a root both exist, they usually have about the same meaning. Pattern IX verbs do not occur in the majhūl-form. There are only 12 occurrences of pattern IX verbs in the Qur'ān, all of them relating to colours.

4.3.10.   Pattern X

Pattern X (istafɛal) is often semantically related to pattern IV. In pattern X verbs, a direction towards or benefit for the first argument may be implied:

> I   *xaraj*$_V$ $(x_1)_{Ag}$ 'to go out'
> \> IV   *'axraj*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to move someone or something out'
> \> X   *istaxraj*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to get something out, remove something'

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80. Eisenstein's investigation of CA pattern IX verbs is based on Blachère et al. (1967-1987), Dozy (1927), Fischer (1965), Fleisch (1979), Freytag (1975), Lane (1968), Morabia (1964), Ullmann (1970-1988), and Wright (1955).

Sometimes, the argument with Goal function in pattern IV becomes the Agent in pattern X, while the former Agent becomes the Goal:

I $xabar_V$ $(x_1)_{Ag/ProcExp/\emptyset}$ $(x_2)_{Go}$ 'to try, test something, to experience something, to know someone or something well'

> IV   '$axbar_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to notify, advise someone'
> X $istaxbar_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to inquire, ask someone for information'

Pattern X may be derived directly from pattern I:

I $xadam_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to serve someone'
> X $istaxdam_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to employ, hire someone'

In the above example, the first argument in the pattern I verb becomes the second argument in pattern X, while the second argument in pattern I becomes the first argument in pattern X.

Roots which describe a quality in their pattern I verb lead to an estimative meaning in pattern X:

I $raxuṣ_V$ $(x_1)_\emptyset$ 'to be cheap'
> X $istarxaṣ_V$ $(x_1)_{\emptyset Exp}$ $(x_2)_{Go}$ 'to find something cheap'

I $xalaf_V$ $(x_1)_\emptyset$ 'to be the successor'
> X $istaxlaf_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to appoint someone as successor'[81]

Not all pattern X verbs derive (directly or via pattern IV) from a pattern I verb. An example is the verb $istafhal_V$ $(x_1)_{Proc}$ 'to become dreadful, get out of control', possibly related to the noun $fahl_N$ $(x_1)_\emptyset$ 'male (of large animals), stallion; outstanding personality'.

4.3.11. Some concluding remarks

The above description of the most common verbal patterns in CA/MSA is not exhaustive, but is intended to illustrate the semantic diversity possible

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81. The meaning of 'to appoint someone as ...' is an extension of the meaning of 'to consider someone as ...', and is here classified as estimative.

among verbs of the same pattern. Attempts to capture all functions of a verbal pattern by relating them to one basic meaning fail to explain why different elaborations of this meaning show up, although more regularities may be discovered after a closer investigation of meaning aspects inherent to the root. Semantic investigations based on dictionaries or grammars are often biased, since many of these works are (partly) based on earlier descriptions, and tend to reproduce the same semantic categories and examples over and over again. Specific problems arise from the translation of meaning, for instance from Arabic to English. For many roots different verbal patterns have more or less the same translation.

Kropfitsch (1983: 205) mentions equivalent meanings in patterns I and II, II and IV, I and V, I and VIII, V and VIII, and VIII and X. Al-Qahtani (1983: 167) gives an example of four verbs which are built on the same root ($\sqrt{\text{yqn}}$). The four verbs have almost the same meaning in their English translation:

I $yaqin_V\ (x_1)_{\emptyset}\ (x_2)_{Go}$ 'to be sure, certain about something; to know something for certain'

IV $'ayqan_V\ (x_1)_{Ag/\emptyset}\ (x_2)_{Go}$ 'to ascertain something; to know something for certain, be sure about something'

V $tayaqqan_V\ (x_1)_{Ag/\emptyset}\ (x_2)_{Go}$ idem

X $istayqan_V\ (x_1)_{Ag/\emptyset}\ (x_2)_{Go}$ idem

Corpus investigations show that one of the verbal patterns is more frequent than the others in most of these cases. The alternative patterns are only used incidentally for stylistic reasons, in specific collocations, or not at all (Kropfitsch 1983). Chouémi (1966: 228) argues that the different shades of meaning, especially between pattern V, VI, VII, VIII and X, may be subtle, but that two patterns are never entirely synonymous.

The descriptions and investigations reviewed here do not provide enough information for a complete FG representation of all meanings associated with the different patterns. Although most examples can be provided with predicate frames, it is not clear whether these frames apply to all uses of the same verb, and to other verbs with the same pattern and general meaning. Section 4.5 will therefore concentrate on the theoretical approach to the representation of the Arabic roots and patterns. Before that, I will briefly consider verbal patterns in the MA dialects.

4.4. Verbal patterns in the MA dialects[82]

The verbal patterns of the MA dialects are identical to those of CA/MSA in most cases. Concerning the semantics of the derivational system and the description of the relationships between verb forms, Kropfitsch (1990: 55) mentions the higher regularity and consistency in most MA dialects when compared to CA/MSA. The three forms of CA pattern I are usually reduced to two MA forms, *faɛal* and *fɛil*; and to one form, *fɛel*, in the dialects of Algeria and Morocco. Most sedentary dialects do not have an internal passive resembling the majhūl-form of CA/MSA, although the mafɛūl-pattern (the passive participle) is generally used.

Pattern II tends to be much more frequent in the MA dialects than in CA/MSA, while the use of pattern IV is limited to direct loans from MSA in most varieties.[83] Only bedouin dialects and dialects influenced by bedouin speech still retain pattern IV. Pattern VII is no longer productive in the dialects spoken in North Africa, but has taken over the function of the majhūl-form in most of the Eastern Arabic regions. Further simplifications with respect to the CA/MSA system consist of the formation of a reflexive-passive of pattern I with the prefix *t-* in North Africa, and the retention of the vowels used in pattern I, II, and III in the reflexive-passive patterns t-I, t-II (CA/MSA pattern V), and t-III (CA/MSA pattern VI).[84]

Derived forms which do not occur in CA/MSA are sometimes built by the prefixing of *(i)st-* (as in CA/MSA pattern X) to the stems of pattern II and/or III. In Morocco this prefix occurs as *ts-*. In Algeria, and to some extent also in Morocco, the prefix *n-* may be added to stems with the prefix *t-*. With assimilation the two prefixes together are often expressed as *tt-*. As another particularity of the MA dialects spoken in the western part of North-Africa, Singer (1980: 265) mentions a verbal diminutive pattern with pejorative or ironical meaning. This pattern is formed by the infixation of *-ay-* after the first root consonant, and resembles diminutive noun formation.

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82. Most of the general information on the MA dialects in this section is based on Fischer and Jastrow eds. (1980: 39-72).

83. The loss of pattern IV ('afɛal) is related to the weakness of the /'/. The pattern IV verbs adapted partly to pattern I, or have been replaced by pattern II (Fischer and Jastrow eds. 1980: 46).

84. The exact morphological details are of no concern to the present discussion. The important point is that the MA dialects tend to be more regular in the morphology and semantics of their derivational systems than CA and MSA.

The deviations from CA/MSA mentioned here do not occur in all dialects, and not always to the same extent in those dialects in which they do occur. This means that the derivational system has to be described for each dialect separately. Unfortunately, there are few corpus based investigations of the meaning of MA verbal patterns.[85] As an example of the greater regularity in the derivational system of MA dialects, the verbal patterns of Cairene Arabic are represented in table 11, adapted from Woidich (1990: 102). The CA/MSA pattern IX is included as pattern IV. The CA/MSA patterns VII and VIII (I-t) are left out of the table, as they occur in Cairene Arabic only as lexicalized (i.e. non-productive) forms. The ista-II and ista-III stems are rather infrequent innovations, which are not fully integrated into the derivational system.

Table 11. Verbal patterns in Cairene Arabic

Pattern	I	II	III	IV
-	*faɛal* *fiɛil*	*faɛɛil* *faɛɛal*	*fāɛil*	*ifɛall*
t-	*itfaɛal*	*itfaɛɛil* *itfaɛɛal*	*itfāɛil*	
ista-	*istafɛil*	*istafaɛɛil* *istafaɛɛal*	*istafāɛil*	

4.5. Implications for the treatment in FG

As we have seen in the preceding sections, the semantic relationship between different verbs of the same root cannot be tied directly to the patterns in which they occur. Many derived verbs have acquired specific

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85. An interesting study of the functions of pattern I and II in Syrian Arabic is described by Lentin (1991), who concludes that a modal value has developed out of the original intensive meaning of pattern II. In his view, the use of pattern II often indicates higher certainty in comparison to pattern I. This new function of pattern II coexists with the original factitive function.

meanings which cannot be deduced from the combination of their root and pattern. Regularities in the derivational system do allow for the interpretation of unfamiliar verbs, however, and new verbs are occasionally formed. The question to be answered here is how FG should account for such a loosely organized semantic structure. I will discuss two earlier FG studies, one of the verbal system in Modern Hebrew (Junger 1987), and one of predicate formation in Modern Standard Arabic (Moutaouakil 1988).

4.5.1. Junger's structured lexicon

The verbal patterns in Modern Hebrew are very similar to those of Arabic. Junger discusses different approaches to the verbal systems of Hebrew and Arabic, and evaluates their applicability in the FG framework. She argues for the adoption of a structured lexicon, based on a classification of roots according to the extent to which they can be combined with the various verbal patterns. Her investigation of such a classification of Modern Hebrew verbs shows that the semantic relations between derived verbs and pattern I verbs are indeed more consistent within a group of roots which occur in the same verbal patterns. To estimate the merits of this organizing principle for Arabic, I used Junger's method for a preliminary investigation of Modern Standard and Egyptian Arabic, based on the verbs built on triconsonantal roots listed under the letter *fā'* in the dictionaries compiled by Wehr (1974) and Hinds and Badawi (1986).

Wehr (1974) lists 120 triconsonantal MSA roots occurring in one or more verbal patterns under the letter *fā'*. Hinds and Badawi (1986) give 129 triconsonantal roots with verbal patterns for Egyptian Arabic (EA), whereby a number of roots occur two- or even three times, when they are considered to have a different underlying meaning. The results of such a small sample may not be called conclusive, but they provide some insights into the implications of Junger's method. I present the main findings in sections 4.5.1.1 (MSA) and 4.5.1.2 (EA), and will evaluate them in section 4.5.1.3.

4.5.1.1. Junger's method applied to MSA

In my sample of MSA roots, Junger's method results in 55 classes of roots which occur in the same verbal patterns.[86] 31 of these classes consist of one root only. A survey of the whole dictionary would come up with around 30 roots for each of these classes. Due to the limited sample, only five of the classes have a sufficient number of roots (namely more than five) to look for consistency in the meaning of the different patterns.[87]

The first large class contains roots with pattern I verbs only. The 13 roots in this class form pattern I verbs with various meanings. Five of these pattern I verbs are monovalent, and express a:

(i)   [- con, - dyn] State (2 verbs), for example *fāl*$_V$ $(x_1)_\emptyset$ 'to be erroneous'
(ii)   [- con, + dyn] Process (1 verb), namely *fāh*$_V$ $(x_1)_{Proc}$ 'to diffuse an aroma, exhale a pleasant odour'
(iii)   [+ con, + dyn, - tel] Activity (2 verbs), for example *fašax*$_V$ $(x_1)_{Ag}$ 'to straddle; to stride, take large steps'.

The other eight pattern I verbs in this class depict divalent [+ con, + tel] Events, of which seven are inherently momentaneous, such as *fadax*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$ 'to break, smash something'.

In the second class of roots, found in patterns I and II only, four of the eight roots manifest the same transitive meaning in both patterns (i.e. I = II). The pattern I verb *falae*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$ and the pattern II verb *fallae*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$, for instance, both mean 'to split, cleave something, to tear something asunder'. The other four roots of the I/II class show a factitive (2 verbs) or ascriptive (1 verb) relation of pattern II to I, or no semantic relation at all (1 verb). A factitive relation exists between the pattern I verb *farih*$_V$ $(x_1)_\emptyset$ 'to be glad, happy' and the pattern II verb *farrah*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$ 'to gladden, delight someone, to make someone happy'. The ascriptive relation concerns the meanings of the pattern I verb *fasaq/fasuq*$_V$ $(x_1)_{Ag}$ 'to stray from the right course, to act unlawfully, sinfully' and the pattern II

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86. Junger (1987: 151) identifies 60 classes in Modern Hebrew.

87. Of the smaller classes, only few show some consistency in the semantic relation between the patterns of this class. A notable exception is class I/VII (with five roots), which is very consistent due to the straightforward passive meaning attributed to pattern VII.

verb *fassaq*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to declare someone to be a *fāsiq* (= a sinner)'. No definite semantic relationship can be ascribed to the pair which consists of the pattern I verb *fāz*$_V$ $(x_1)_{ø/Ag}$ 'to be successful; to win; to escape' and the pattern II verb *fawwaz*$_V$ $(x_1)_{Ag}$ 'to cross the desert, travel through or in the desert'.

Class I/II/IV/V is remarkably consistent with respect to the verbal meaning relations of four out of its six roots. Among these verbs, pattern I depicts a [- con] Process or State, patterns II and IV the factitive/causative instigation or bringing about of the Process or State depicted by I, and pattern V means more or less the same thing as I. An example is provided by the following group of verbs which are based on a root of this class:

I *fatar*$_V$ $(x_1)_{Proc}$ 'to abate, subside; to become listless, languid; to cool off, become tepid, lukewarm (water)'

II *fattar*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to cause something to subside, ease; to make someone or something languid, listless, to exhaust; to make tepid'

IV *'aftar*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to make someone or something languid, listless; to exhaust, weaken'

V *tafattar*$_V$ $(x_1)_{Proc}$ 'to become listless, languid; to become tepid, luke warm (water)'

The other two roots in this class have less predictable meanings in their derived forms. An example is:

I *fā'*$_V$ $(x_1)_{Proc}$ 'to return; to shift from west to east (shadow)'

II *fayya'*$_V$ $(x_1)_{ø}$ 'to afford shadow, be shady (tree)'

IV *'afya'*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to give something as booty; to give, afford, grant award something'

V *tafayya'*$_V$ $(x_1)_{Ag}$ $[(x_2)_{Go}]$ 'to shade oneself, seek shade (with an optional Goal indicating the source of shade)'

Four out of the six roots in class I/II/V/VII have similar semantic relations between the different patterns. For each of these four roots, patterns I and II are (almost) identical in meaning, as are patterns V and VII. Patterns I and II are transitive, and may depict a [+ dyn, - tel] Activity or a [+ dyn, + tel] Event, which can be [+ mom] or [- mom]. Pattern V and VII function as the passives of pattern I and II. An example is:

I	*farak*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to rub something'
II	*farrak*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to rub something'
V	*tafarrak*$_V$ $(x_1)_{Proc}$	'to be rubbed'
VII	*infarak*$_V$ $(x_1)_{Proc}$	'to be rubbed'

Of the other two roots in this class, the first, √ftt, has a pattern I verb which describes an Activity whereby the affected entity is indicated by a prepositional phrase (*fatt*$_V$ *fī* $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to weaken, undermine something or someone'), a pattern II verb meaning 'to crumble something' (*fattat*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$), and pattern V (*tafattat*$_V$ $(x_1)_{Proc}$) and VII (*infatt*$_V$ $(x_1)_{Proc}$) verbs which are mediopassive with respect to II ('to crumble, disintegrate, break up into fragments'). For the second root, pattern I and II describe different transitive activities, while pattern V functions as the passive of II, and VII as the passive of I:

I	*fasax*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to dislocate, disjoint something (a limb); to sever, sunder, tear something; to abolish, cancel, invalidate something'
II	*fassax*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to tear something to pieces, to mangle'
V	*tafassax*$_V$ $(x_1)_{Proc}$	'to break up into fragments, fall apart, disintegrate'
VII	*infasax*$_V$ $(x_1)_{Proc}$	'to be cancelled, abolished, invalidated'

The fifth class with more than five roots of the MSA sample consists of eight roots which occur in pattern II only. The pattern II verbs built with these roots have various meanings. Five of these verbs depict transitive [+ con, + tel, - mom] Events (for example *fattaš*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to examine, investigate, explore something; to control, inspect someone or something'). Two of the patterns II verbs in this class express [+ con, + dyn, - tel] Activities, one of them transitive (*farraš*$_V$ $((x_1)_{Ag}$ $(x_2)_{Go}$ 'to brush something')[88] and the other intransitive (*farras*$_V$ $(x_1)_{Ag}$ 'to make holidays'). One of the verbs built on roots of this class depicts a [- con, - dyn] State (*fallak*$_V$ $(x_1)_{g}$ 'to have round breasts').

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88. This is the second entry of this root in the dictionary. The first entry belongs to the I/II/VIII class.

4.5.1.2. Junger's method applied to EA

The 129 EA roots in the sample are divided into 26 classes. The fact that this is a smaller number of classes than in the MSA (55) and Modern Hebrew (60) samples is partly explained by the decision to leave the MSA patterns IV, VII, and VIII out of the investigation. These patterns are not considered to be productive in Cairene Arabic (Woidich 1990: 98-107), and their inclusion in the investigation of a small sample would obscure the results. Of the 26 EA classes ten consist of one root only. Six of the classes count two roots, four classes contain three roots, and one class four. These smaller classes will not be discussed.

Only five of the EA classes contain more than five roots, but the vast majority of the roots in the sample (91 out of 129) belong to one of these larger classes. Twelve roots occur only in pattern I, with a variety of meanings. Class I/t-I contains 22 roots, and the semantic relation of pattern I to t-I is very consistent. The 18 roots which form divalent pattern I verbs, make monovalent pattern t-I verbs. Some examples are:

I $faram_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to mince, grind something (meat)'
t-I $itfaram_V$ $(x_1)_{Proc}$ 'to be minced, be ground'

I $fadah_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to disgrace, to subject someone to scandal'
t-I $itfadah_V$ $(x_1)_{Proc}$ 'to be subjected to scandal'

The four roots which have monovalent pattern I verbs express an impersonal meaning in combination with pattern t-I. An example is:

I $fasaq_V$ $(x_1)_{Ag}$ 'to indulge in licentiousness; to commit adultery'
t-I $itfasaq_V$ $(ix_1: [-Sp,-Ad] (x_1))_{Ag}$ 'impersonal passive of *fasaq*'[89]

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89. The structure $(ix_1: [-Sp, -Ad] (x_1))$ indicates that the verb in question is used with an impersonal passive meaning, and can be read as 'the indefinite entity x_1 such that it is neither Speaker nor Addressee'. This structure triggers the third person singular inflection which characterizes impersonal expressions in Arabic. This representation of impersonal constructions is taken over from De Groot (1989: 101).

Class I/t-I/II/t-II is one of the two largest classes with 23 roots. The relationship of pattern II to pattern I is usually repetitive/distributive or intensive (15), but may also be factitive (4). The meaning of pattern II verbs is sometimes identical to the meaning of the corresponding pattern I verb (7), and is then usually limited to a more specific context. For some roots there is no apparent relation between the meaning of pattern I and (one of the meanings of) pattern II (3).[90] The relationship of pattern t-I to I, and of t-II to II, is always that of a passive or mediopassive. Some examples are:

Repetitive/distributive/intensive relation of II to I

I	*faqaš*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to break, crack something'
t-I	*itfaqaš*$_V$ $(x_1)_{Proc}$	'to be broken, be cracked'
II	*faqqaš*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to smash something or break (several things) in succession'
t-II	*itfaqqaš*$_V$ $(x_1)_{Proc}$	'to be smashed (repeatedly or of several things)'

Factitive/repetitive relation of II to I

I	*faqas*$_V$ $(x_1)_{Proc}$	'to hatch, hatch out'
	faqas$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to catch someone out in trickery; to catch something out (a trick)'
t-I	*itfaqas*$_V$ $(x_1)_{Proc}$	'to be caught out'
II	*faqqas*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to cause to hatch'
	faqqas$_V$ $(x_1)_{Proc}$	'to hatch successively (of eggs)'
t-II	*itfaqqas*$_V$ $(x_1)_{Proc}$	'passive of transitive *faqqas*'

Identical/more specific relation of II to I

I	*faxat*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to pierce'
t-I	*itfaxat*$_V$ $(x_1)_{Proc}$	'to be pierced'
II	*faxxat*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to pierce (the eyes)'
t-II	*itfaxxat*$_V$ $(x_1)_{Proc}$	'to be pierced (of the eyes)'

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90. The number of different relationships mentioned for this class do not add up to 23 (the number of roots in the class), as some pattern II verbs have more than one meaning.

In class I/II/t-II (11 roots), the factitive (6) and causative (4) meanings of pattern II are prevalent.[91] For one of the roots in this class, pattern I is more specific than pattern II. The semantic relation of pattern t-II to pattern II is usually passive or mediopassive, in one case the pattern t-II verb and the corresponding pattern II verb have the same meaning. For the root √ftt, one of the meanings of pattern t-II is repetitive with respect to pattern I, but a repetitive function is not ascribed to pattern II. Some examples are:

Factitive/causative relation of II to I

I	*fāɛ*$_V$ $(x_1)_{Proc/Ag}$	'to spread, diffuse (of an odour); to bestir oneself to (vigorous) action'
II	*fayyaɛ*$_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$	'to diffuse something (an odour); to arouse someone to (vigorous) action'
t-II	*itfayyaɛ*$_V$ $(x_1)_{Proc}$	'to be aroused to (vigorous) action'

I is more specific than II

I	*fatt*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to make something into *fatta* (= a dish consisting of hot broth or milk, poured over crumbled bread)'
	fatt$_V$ $(x_1)_{Ag}$	'to prepare *fatta*'
II	*fattit*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to crumble something, to break something into small pieces'
t-II	*itfattit*$_V$ $(x_1)_{Proc}$	'to be crumbled or crumble, be broken into small pieces or break into small pieces'

Class II/t-II (with 23 roots) shows a consistent passive relation between pattern t-II and divalent pattern II. In a few cases, a mediopassive or reflexive interpretation is possible too. Some examples are:

II	*fannat*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to shuffle something (cards)'
t-II	*itfannat*$_V$ $(x_1)_{Proc}$	'to be shuffled (of cards)'
II	*fawwat*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$	'to cover someone or something with a towel; to dry someone or something with a towel'
t-II	*itfawwat*$_V$ $(x_1)_{Proc}$	'to be covered or cover oneself with a towel'

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91. Two pattern II verbs built on the roots in this class have both a factitive and a causative meaning.

Pattern II is generally denominal in this class, with the broad meaning of 'doing something involving x', whereby x stands for the noun or adjective which functions as the nominal source. The verb *fawwaṭ*$_V$ 'to cover or dry someone or something with a towel' is thus related to the noun *fūṭa*$_N$ 'towel', and the verb *farrax*$_V$ 'to incubate (eggs)' to *farx*$_N$ 'chick'.

4.5.1.3. Evaluation

The results of this small investigation show some consistency in the meaning-relations within a class of roots which occur in the same patterns. The effect is not striking, however, and is due to a great extent to the meaning of the pattern I verb, which determines what derived forms are likely to be used. In my opinion, Junger's approach provides for an interesting classificational method which may lead to further insights in the relationship between the meaning of pattern I and the various derived patterns. The number of classes is too large to play an effective role in the structuring of the lexicon, however, as the number of roots in most classes is relatively low. The psychological adequacy of a lexicon organized on the basis of this type of classification is questionable, since the regularities which are found within the classes may be simply a manifestation of the meaning of the root or the pattern I verb. If this is the case, an organization based on the semantics of roots or pattern I verbs should be preferred to an organization on the basis of Junger's classes.

4.5.2. Moutaouakil's predicate formation rules

Moutaouakil (1988: 8) makes a distinction between direct and indirect derivation. The MSA verbal pattern V, for instance, is directly derived from II, and indirectly (via II) from I. Derivational processes are specified by predicate formation rules, such as the causative formation rule in (12):

CAUSATIVE PREDICATE FORMATION IN MSA
(12)   input: $\{faεal/faεil\}_V \ [(x_1)...(x_n)]$
       output: $\{'afεal/faεεal\}_V \ [(x_\theta)_{Ag}(x_1)...(x_n)]$
       meaning: 'x_θ takes care of the realization of the SoA designated by
                   the input-predicate'

Rule (12) does not differentiate between the factitive function of pattern II and the causative function of pattern IV.[92] Both patterns are directly derived from one of the stem forms of pattern I. Only pattern I verbs are represented as basic entries in the lexicon.

Moutaouakil pays attention to the valency changing effects of the predicate formation rules. Causative (pattern II and IV), comitative (pattern III) and requestive (pattern X) constructions are accounted for by means of predicate formation rules which increase the valency of the input predicate by adding an extra argument.[93] Reflexive (pattern V, VII, and VIII), anti-causative (pattern V, VII, and VIII), and reciprocal (pattern VI) constructions result from the application of predicate formation rules which decrease the valency of the input predicate (Moutaouakil 1988: 101).

Moutaoukil mentions the paradigmatic gaps and other irregularities in the derivational system, but is unable to account for them in his predicate formation rules. In my opinion, this is because Moutaouakil's predicate formation rules are not flexible enough. In order to reconcile his approach with the complexity of the derivational system (as reflected in the literature discussed in section 4.3), I suggest the following principles for predicate formation in Arabic:

(i)   Verbal patterns may figure in the output phrase of different predicate formation rules.

(ii)   Predicate formation rules are flexible with regard to the form and categorial status of the input predicate.

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92. Moutaouakil (1988: 47) nevertheless attributes a semantic difference to pattern II and IV residing in the amount of 'control' exerted by the Goal argument. In his opinion, a human Goal of pattern II 'causatives' controls the SoA to a greater extent than a human Goal of pattern IV causatives. In my view, Moutaouakil wrongly identifies the absence of any active involvement (which is typical of the Goal in factitive constructions, see section 4.3.2.1) with 'control' in the form of deliberate resistance.

93. Moutaouakil (1988) uses the terms *comitative* and *requestive* to refer to the most prominent functions of pattern III and X respectively. For pattern III, this is the involvement of a human entity, for pattern X the intended benefit for the Agent (see sections 4.3.3 and 4.3.10).

The first principle allows for the co-existence of similar verbal patterns with different predicate frames and meanings. The second principle explains the possible denominal derivation of various verbal patterns, and the occurrence of pattern V, VI and X verbs which are not derived from pattern II, III or IV verbs of the same root. As a consequence of the root-based morphology of Arabic, variations in the form of the input predicate can be handled by the expression rules (which operate on the root) without further measures. In the following section I will elaborate on the role of this flexible type of predicate formation in the derivational system of Arabic.

4.5.3. The effect of predicate formation rules

Without going too deeply into the structure of the lexicon, I wish to point at the existence of two different types of predicate formation rules:

(i)   *Incidental* predicate formation rules result in derived predicates which, once they are formed and accepted in a linguistic community, are registered in the lexicon.

(ii)   *Recurrent* predicate formation rules are used over and over again to create derived predicates which are not listed in the lexicon, but newly formed each time they occur.

Incidental predicate formation rules account for the ability to form new predicates on the basis of perceived regularities in the lexicon. These regularities are captured by redundancy rules which are not entirely productive in a synchronic sense, but consistent enough to be used incidentally for the formation of new predicates.[94] Recurrent predicate formation rules specify formal and semantic modifications which are completely predictable in terms of their effect on the input predicate.

An example of incidental predicate formation is given by rule (13), which specifies the formation of Dutch predicates such as *bordenwassen*$_V$ 'to do the dishes occupationally (in a restaurant or hotel)' and *vakkenvullen*$_V$ 'to refill the shelves occupationally (in a supermarket)'. Both these predicates are formed according to regular principles of Dutch Goal incorpo-

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94. See Dik (1980b: 26) for the definition of synchronic productivity.

ration, but are only used to refer to the described activities in a specific context. This context cannot be predicted on the basis of the predicate formation rule, and must be listed in the lexicon after the successful introduction of the new predicate.

GOAL INCORPORATION IN DUTCH[95]

(13)   input: a. $pred_V (x_1)_{Ag} (x_2)_{Go}$
                     b. $pred_N (x_1)_\emptyset$
                     condition: $pred_N$ conforms to the selection restrictions imposed on the structure $[(x_2)_{Go}]$ in a.
       output: $\{pred_N\text{-}pred_V\}_V (x_1)_{Ag}$

After the application of this incidental predicate formation rule, by which the description of a transitive activity becomes the description of a habitual or occupational intransitive activity, a recurrent predicate formation rule may be applied to form the predicates *bordenwasser*$_N$ 'someone who has the occupation of doing the dishes in a hotel or restaurant', and *vakkenvuller*$_N$ 'someone who has the occupation of filling the shelves in a supermarket'. This rule can be specified as:

AGENT NOMINAL FORMATION IN DUTCH

(14)   input: $pred_V(x_1)_{Ag}$
       output: $\{pred_V\text{-}er\}_N (x_1)_\emptyset$

It is not always easy to decide whether a predicate formation rule is of the incidental or recurrent type. Once a particular derived predicate has achieved a specific meaning, it has to be registered with this meaning in the lexicon, and is then no longer formed each time it is used with this specific meaning. A predicate formation rule which may be applied recurrently in most cases can be used incidentally to form a predicate with a highly specific meaning. Though there clearly are borderline cases, it is useful to make a conceptual distinction between the two types of predicate formation.

Incidental predicate formation rules allow us to form and understand derived predicates which are not yet listed in our personal lexicon. Recurrent predicate formation rules are used as an important device to organize the lexicon efficiently and to keep the number of individual entries as low

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95. The rules in (13) and (14) are from Dik (1980b: 40/41).

as possible. Some types of recurrent predicate formation can be represented by π_θ-operators and σ_θ-satellites (see section 3.3.1). The distinction between incidental and recurrent types of predicate formation enables us to account for the regularity of derived predicate formation even if most derived predicates have a specific meaning, and does not require us to expand the lexicon unnecessarily by including entries for all types of derived predicates.

4.5.4. The treatment of verbal derivation in Arabic

The derivational system in MSA may be described by a rather large number of incidental predicate formation rules, operating on stems. The input stems may be nominal, adjectival or verbal, derived or basic. From all stem types, the root is extracted for further morphological treatment. The meaning of a pattern X verb can thus be based on the specific meaning of an adjective, a pattern I stem, or a pattern IV stem. The predicate formation rules are often homophonous, such that several different rules may lead to the same verbal pattern. It is to be expected that the successive application of in themselves quite consistent rules - each application leading to a new word with a specific meaning which can in turn be used as an input for other rules - may lead eventually to the unpredictable configuration found in the derivational system. I therefore conclude that all MSA derived verbs have to be listed in the lexicon. The incidental predicate formation rules which account for the observed regularities are mainly interesting for a diachronic investigation of word formation. In a synchronic description of MSA grammar, they are only relevant for the formation and understanding of new words.

The situation is a bit different for the MA dialects, which may have recurrent as well as incidental rules to account for the formation of verbal patterns. The rules which specify the prefixing of a *t-*, *tt-* or *n-* to form passives or mediopassives, for example, appear to have a predictable semantic effect. The derivation of verbal patterns with these prefixes may thus be captured by predicate formation rules which are applied recurrently. The formation of the other patterns is represented by incidental predicate formation rules, since the verbs based on these patterns often have a specific meaning. Some of these incidental predicate formation rules are specified for the derivation of Egyptian Arabic pattern II verbs in section 4.5.5.

4.5.5.   *Verbal predicate formation in Egyptian Arabic*

At least six different incidental predicate formation rules are necessary to account for all possible meanings of EA pattern II verbs:

INTENSIVE PREDICATE FORMATION
(15) input: $faɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$
       output: $faɛɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$
       meaning: 'the SoA effected by x_1 affects x_2 to a great extent'

An example is the derivation of *fattaḥ*$_V$ 'to open something wide' from *fataḥ*$_V$ 'to open something'.

REPETITIVE PREDICATE FORMATION
(16) input: $faɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$
       output: $faɛɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$
       meaning: 'x_1 is repeatedly engaged in the SoA described by faɛal'

An example is the derivation of *fattaḥ*$_V$ 'to open something repeatedly' from *fataḥ*$_V$ 'to open something'.

DISTRIBUTIVE PREDICATE FORMATION
(17) input: $faɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2)_{Go}$
       output: $faɛɛal_V$ $(x_1)_{Ag/Fo}$ $(x_2: < \text{plural} >)_{Go}$
       meaning: 'x_1 is engaged in the SoA described by faɛal, thereby affecting a number of entities'

An example is the derivation of *fattaḥ*$_V$ 'to open several things' from *fataḥ*$_V$ 'to open something'.

FACTITIVE PREDICATE FORMATION
(18) input: $fiɛil/faɛal_V$ $(x_1)_{Proc/Ø}$
       output: $faɛɛal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$
       meaning: 'x_1 causes, either directly or indirectly, the engagement of x_2 in the SoA described by fiɛil/faɛal'

An example is the derivation of *fattas*$_V$ 'to choke, suffocate someone' from *fiṭis*$_V$ 'to choke, suffocate (intransitive)'.

DENOMINAL PREDICATE FORMATION

(19) input: $pred_N$ $(x_1)_\emptyset$
      output: $faeeal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$
      meaning: 'x_1 does something to x_2 which involves the input predicate in some way'

An example is the derivation of *fawwaṭ*$_V$ 'to cover or dry something with a towel' from *fūṭa*$_N$ 'towel'.

SPECIFIC PREDICATE FORMATION

(20) input: $faeal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$
      output: $faeeal_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$
      meaning: 'x_1 is engaged in the SoA described by faeal, but in a specific context or with a fixed second argument'

An example is the derivation of *faxxat*$_V$ 'to pierce (the eyes)' from *faxat*$_V$ 'to pierce something'.

The predicate formation rules given in (15-20) are not meant to present an exhaustive account of all possible functions of EA pattern II. They just illustrate how different meanings of one pattern, such as the three meanings of the pattern II verb *fattah*$_V$, may be explained by referring to a set of predicate formation rules. As the predicate formation rules are supposed to be of the incidental type, the three derived pattern II predicates *fattah*$_V$ will all be listed in the EA lexicon.

   Each one of these derived predicates may be further modified by the recurrent predicate formation rule which adds a prefix *it-* to the derived stem, thus leading to three recurrently derived verbs *itfattah*$_V$ $(x_1)_{Proc}$ with the three meanings of (i) 'to open wide (intransitive); to be opened wide', (ii) 'to open repeatedly (intransitive); to be opened repeatedly', and (iii) 'to open (intransitive); to be opened (of several things)'. The mediopassive and passive meanings are represented by the same recurrent predicate formation rule, as the distinction between the two meanings is not relevant for Egyptian Arabic.

PASSIVE/MEDIOPASSIVE FORMATION

(21) input: $pred_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$
      output: *it*-$pred_V$ $(x_1)_{Proc}$
      meaning: x_1 is affected by the SoA described by $pred_V$

The predicate formation rule in (21) reflects the indifference of the output predicate to the presence or absence of an implied instigating entity.

4.6. Conclusions

In this chapter I have presented an account of the semantic complexity of verbal derivation in Arabic. I have evaluated earlier proposals concerning the FG treatment of verbal derivation in Modern Hebrew and Modern Standard Arabic. An organization of the lexicon on the basis of classes of roots which occur in the same configuration of patterns has been rejected for Arabic, in favour of a flexible approach with a rather large number of predicate formation rules. Basic or derived nominal, adjectival or verbal predicates may all serve as input for verbal predicate formation. A verbal pattern can have various functions, and may thus figure in the output phrase of several different predicate formation rules.

I have proposed to distinguish between incidental and recurrent predicate formation rules. Incidental predicate formation rules capture the derivation of new predicates, which, once they are formed and used with a specific meaning, need to be registered in the lexicon. Recurrent predicate formation rules describe derivational processes which are completely predictable in their semantic effect on the input predicate, so that the output predicates can be formed or interpreted by applying the rule each time they occur.

For Modern Standard Arabic, only incidental predicate formation rules are considered to be relevant for the derivation of verbal predicates. Verbal derivation in Egyptian Arabic may be described by a number of incidental predicate formation rules and one recurrent predicate formation rule. The recurrent predicate formation rule accounts for the regular derivation of verbs with a passive/mediopassive meaning, and may be represented by a π_g-operator with the value (Medio-)Passive.

5. Simple verb forms

5.0. Introduction

In CA/MSA as well as in the MA dialects, most simple verb forms express several TMA values which may be represented at different layers of the E-structure introduced in chapter 3. As I have argued earlier for rather strict definitions for TMA categories, my approach necessarily leads to an analysis in which most of the Arabic verb forms are described as polysemous. This runs counter to traditional orientalist approaches, which generally explain the different functions involved by positing one underlying 'primary' meaning for each form. According to the context, this primary meaning may lead to 'secondary' interpretations.

I will treat the different uses of a single verb form all in a similar way, and represent them as the expression of a π-operator value of the appropriate layer. A simple verb form can thus be associated with two or more operators. Such a differentiated approach has the advantage that statements concerning a verb form may be limited to the use of the form with a particular function. Suppose that, for example, an obligatory verb form for the expression of a π_1-operator value Prospective Aspect, is optionally used for the expression of the π_2-value Future Tense. If the difference between Prospective Aspect and Future Tense is not observed, it will be stated that this form functions as an optional future marker. With strict definitions forcing us to discriminate between the aspectual and temporal functions of the form, the difference in the degree of obligatoriness will be noticed and can be used for a more precise grammatical description.

In the following account of verb forms in Arabic, I will first sketch the functions generally associated with the two main conjugations (5.1), the suffix and the prefix set. After that, attention will be paid to the role of the context, and obligatory versus optional marking (5.2). Section 5.3 presents a detailed description of the functions of the suffix set. Section 5.4 treats the subdivisions of the prefix set, first in CA and MSA (5.4.1), and then in the MA dialects (5.4.2). The functions of the preverbal marker *qad* will be discussed in section 5.5.

Section 5.6 presents some conclusions. The TMA values expressed by Arabic verb forms will be organized in the FG format (5.6.1). Some

problems regarding the representation of the imperative form will be addressed in section 5.6.2. The possible co-occurrence of different operator values will be discussed in chapter 7 on verbal complexes.

5.1.   Suffix and prefix verb sets

In all varieties of Arabic, there is a basic morphological opposition between two sets of verb forms. In the first set, inflection for person, number and gender is achieved by adding suffixes to a stem. The forms in the other set consist of a stem with a prefix, or, for some person, gender and number combinations, a circumfix. All verbs can be inflected in both ways. Table 12 presents the paradigms based on the verb *katab* 'to write' in Egyptian Arabic:

Table 12. The inflection of the verb *katab* in Egyptian Arabic

Form		Suffix set	Prefix set
SG	1	*katab-t*	*a-ktib*
	2M	*katab-t*	*ti-ktib*
	2F	*katab-ti*	*ti-ktib-i*
	3M	*katab*	*yi-ktib*
	3F	*katab-it*	*ti-ktib*
PL	1	*katab-na*	*ni-ktib*
	2	*katab-tu(m)*	*ti-ktib-u*
	3	*katab-u(m)*	*yi-ktib-u*

Most grammarians describe the verb sets in terms of either an aspectual or a temporal opposition, identifying them as *past* and *non-past, perfect(ive)* and *imperfect(ive), completed* and *uncompleted*, and the like.[96] In this

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96. For a survey of the literature on the subject I refer to Aartun (1963), Kharma (1983), Messaoudi (1985), and Binnick (1991).

study I will use the neutral terms *suffix set* and *prefix set*, to avoid the confusion arising from a functionally based terminology.[97]

The functions of the two verb sets are not limited to the domain of Tense and Aspect. Both the suffix and the prefix set are associated with certain modal values. A number of TMA values demand a further specification by affixes or particles in some varieties.

In terms of the FG model, the functions ascribed to the two verbs sets can be described roughly as in table 13:

Table 13. The functions ascribed to the suffix and prefix set

Type of operator		Suffix set	Prefix set
π_1	Aspect 1	Perfective	Imperfective
	Aspect 2	Perfect	Progressive/Prospective
π_2	Aspect 3		Habitual
	(Relative) Tense	Past	Present/Future
	Mood		Nonactual
π_3	Mood	Certain	Possible
π_4	Basic Illocution	Exclamative[98]	Directive[99]

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97. These terms are also used by Beeston (1970). Other neutral terms are introduced by Messaoudi (1985): *forme verbale à suffixes (Fs)* and *forme verbale à préfixes (Fp)*, D. Cohen (1989): *conjugaison suffixale (cs)* and *conjugaison préfixale (cp)*, and Holes (1995): *s(uffix)-stem* and *p(refix)-stem*. The 3rd person masculine forms of the verb 'to do', *faɛala* and *yafɛalu*, are also commonly used to indicate the two forms.

98. In CA and MSA, the suffix set is used for the expression of wishes, oaths and curses. This use of the suffix set with reference to the future has been described by medieval Arabic linguists as a figurative extension of Past Tense meaning, which depicts the future events as highly certain (Kinberg 1991: 331). In view of the conventionalized occurrence of the suffix set in these contexts, a classification of this function as a special Exclamative Illocution seems most appropriate.

99. The term *Directive* is chosen to include straightforward Imperatives as well as other directive expressions, such as 'let's do that'.

Both verb sets can be used in sentences with a Declarative or Interrogative Illocution. The use of the suffix set as the expression of a special Exclamative Mood occurs mostly in CA and MSA. Emphatic wishes and oaths are normally expressed by the prefix set in MA dialects, which may reflect the directive use of the prefix set.

The above description of the verbal system in Arabic as a basic opposition of two verb sets is not refined enough. A more differentiated picture includes:

(i)   The further subdivision of the prefix set by *different endings* in CA/MSA (section 5.4.1), and the existence of a special *imperative mood* in all varieties (sections 5.4.1 and 5.4.2).

(ii)   The role of *preverbal markers*[100] (sections 5.4.2 and 5.5).

(iii) The verbal functions of the *Active Participle* (chapter 6).

(iv)   *Auxiliary verbs*, which specify additional TMA values (chapter 7).

Most of the additional verb forms and preverbal markers have two or more different functions, and their correct interpretation must be derived from the context and the Aktionsart of the SoA. The importance of the context for the interpretation of verb forms will be exemplified in section 5.2. The significance of the Aktionsart of the described SoA for the various verb forms will be discussed in chapter 6 in relation to the functions of the Active Participle.

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100. The term *preverbal marker* is used throughout this study to generalize over the various forms that may occur. Due to morphological differences, the more specific term *prefix* may be adequate for some preverbal markers, while *particle* or *proclitic* are preferred for the description of others.

5.2. The context

5.2.1. Types of contextual features

It is generally agreed that the interpretation of Arabic verb forms depends to a large extent on the context. It is therefore regrettable that the relevant features of the context are often neglected in grammars of CA/MSA as well as MA dialects. The importance of the context does not imply that verb forms lack a specific function. An accurate description can be achieved by attributing one or more specific functions to each verb form, while allowing for the underspecification of some of these functions in case the context is sufficiently clear.

The contextual features involved in the choice or interpretation of a particular verb form are either linguistic or extralinguistic. *Linguistic contextual features* are present in the expression itself or in the larger stretch of discourse of which the expression is a part. *Extra-linguistic contextual features* concern the general knowledge of the Speaker and Addressee(s), and the situation in which the expression is uttered. The two Qur'ānic sentences quoted below illustrate how both the linguistic and extralinguistic context are used to arrive at a correct interpretation of the verb forms. In examples (1) and (2), the adverbials *min qablu* 'before' and *yawma l-qiyāmati* 'the Day of Resurrection' (which is a future event) indicate the intended time reference.

Classical Arabic (Fischer 1972b: 93; Qur'ān 2:91)
(1) *lima taqtulūna   'anbiyā'- a   l-   lāh- i   min qablu...*
why kill:2.M.PL prophets- ACC   the- God GEN   before
'Why did you use to kill God's prophets before...'

Classical Arabic (Comrie 1976: 79; Qur'ān 2:113)
(2) *allāhu yahkumu   bayna-   hum   yawma l-   qiyāmati ...*
God   judge:3.M.SG between- them   day   the- resurrection
'God will judge between them on the Day of Resurrection...'

Both sentences have prefix forms, but the interpretation of these forms is different. In (1), the adverbial situates the predication in the past, so the prefix set is not used to indicate time reference. A modal interpretation is not likely, since the killing of God's prophets is not presented as nonactual or uncertain, and the prefix set is not used directively. As the expression of

an aspectual value, the prefix set may indicate Progressive or Habitual Aspect. The verb 'kill' is inherently momentaneous, which makes an interpretation of Progressive Aspect only possible if the prophets were killed successively on one occasion. Since the killing of the prophets took place on different occasions, the prefix set is interpreted as the expression of Habitual Aspect.

In example (2), the intended future time reference as indicated by the adverbial is compatible with a temporal (Future Tense) interpretation of the verb form. Interpretations in terms of a modal (Nonactual Mood) or aspectual (Progressive or Habitual Aspect) distinction are ruled out, since we expect the judgement to be presented as a highly certain, momentaneous, and unique event. In the above examples linguistic features such as the presence of adverbial satellites and the inherent aspectuality of the predicate play a decisive role.[101]

Another important contextual feature resides in the type of discourse of which the expression is a part. The type of discourse or genre can be deduced from the extralinguistic context, but it may also be linguistically coded, for instance by a special intonation or a conventionalized opening phrase. For many varieties of Arabic, the possibility to use a prefix set in an expression with Past Mood crucially depends upon its use in a vivid narrative passage. Unlike Classical Arabic, these varieties have obligatory Past Mood (and Past Tense) marking outside such a specific narrative context. The Egyptian Arabic prefix forms *yirūḥ* 'he goes' and *yilā'i* 'he finds' in example (3), for instance, are only appropriate to refer to a sequence of events in the past if the sentence is embedded in a stretch of vivid narrative discourse.

> Egyptian Arabic (Wise 1975: 7)
> (3) *yirūḥ*   *hinâk* *wi* *ma-* *yla'i-*   *hā-* *š!*
> go:3.M.SG there and NEG- find:3.M.SG- her- NEG
> 'He goes there, and then he doesn't find her!'

The influence of the type of discourse on the possible functions of verb forms in Arabic has not been investigated systematically. The relevance of the type of discourse and its participants is sometimes mentioned for a

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101. See section 3.1.3 for the definition of *inherent aspectuality*.

specific interpretation of a form, of which further examples will be given where appropriate.

5.2.2. Obligatory versus optional marking

In examples (1) and (2) above we have seen that the verbal expression of past time reference is not obligatory in Classical Arabic. This is also the case in some of the MA dialects, like for instance Yemeni and Najdi Arabic. In a neutral context and in the absence of time adverbials, past time reference is usually indicated by the suffix set in these varieties. The indication of past time reference is thus one of the functions of the verb form. When the temporal location can be derived unequivocally from the linguistic or extralinguistic context, the expression of Past Tense or Mood by the suffix set is optional. For MSA and most MA dialects, the presence of time adverbials does not influence the obligatory marking of Past Tense. The marking of Past Mood may be absent in the restricted context of narrative passages.

Another example of the interplay between contextual features and the explicit marking of a particular value is presented by the preverbal marker *qāɛed* in Tunisian Arabic. This preverbal marker indicates Progressive Aspect in expressions which would otherwise have multiple interpretations. The preverbal marker may be absent if the context indicates that reference is made to an ongoing action (Singer 1984: 301). In Egyptian Arabic, the expression of Progressive Aspect by the preverbal marker *bi-* is obligatory even if the context excludes a nonprogressive interpretation.[102]

Similar differences between MA dialects are found in the use of preverbal markers indicating Prospective Aspect or Future Tense. While one variety uses a preverbal marker with a particular value only to avoid ambiguity in expressions which could be misinterpreted without it, a preverbal marker with the same value may be obligatory in all contexts in another dialect.

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102. In coordinated constructions with a repeated occurrence of the Egyptian Arabic prefix set with *bi-*, the preverbal marker may be left out in all but the first form, provided that these prefix forms with *bi-* (i) express the same (progressive, habitual, or generic) function, and (ii) have the same first argument.

From these examples I conclude that the distinction between obligatory versus optional marking is not always clearcut. Values which are obligatorily expressed in most circumstances may be left unspecified, for instance in narratives or emphatic expressions. Values which are considered to be optional may turn out to be obligatory in a nonspecific context.

The degree of obligatoriness of the expression of a particular TMA value will be specified whenever possible in this study. Unfortunately, grammars are often not detailed enough to make precise statements of this kind, either because they do not differentiate between the various functions of one verb form, or because they fail to describe the determining role of the context in an explicit way. Future research must concentrate on these gaps in the description of verb forms and preverbal markers.

5.3. The functions of the suffix set

5.3.1. Perfective Aspect

The opposition between the Arabic suffix and prefix set is often characterized as basically aspectual, in that the suffix set describes a SoA as a completed, single whole (Perfective Aspect), while the prefix set pictures a SoA as uncompleted and viewed from within (Imperfective Aspect). The use of the suffix set rarely occurs without past time reference, however, and this led Comrie (1976: 80) to posit a combined aspectual/temporal opposition for the suffix and prefix sets in Classical Arabic as well as contemporary varieties.[103] According to Comrie, the suffix set indicates the combination of both Perfective Aspect and relative Past Tense, while the prefix set may be used to express Imperfective Aspect, relative Nonpast Tense, or a combination of these values.

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103. Without past time reference, the suffix set occurs obligatorily after some conditional markers, and in performative expressions such as *biɛtuka hāda* 'I hereby sell you this'. The function of the suffix set in conditional statements is discussed elsewhere (Cuvalay 1994b; 1995a). The use of the suffix set in performative expressions can be explained on the basis of its function of indicating Perfect Aspect ('I am hereby in the state of having sold you this') or Factual Mood ('I am hereby definitely selling you this'). The use of the suffix set to indicate Factual Mood is treated in section 5.3.4.

If Comrie's analysis is correct, this means that Perfective Aspect is not marked separately in the past, where it represents the default case. In expressions with nonpast reference, Perfective Aspect is not marked either, since the prefix set indicates Nonpast Tense regardless of the Imperfective/Perfective Aspect distinction. It may thus be concluded that Perfective Aspect is not positively indicated at all.

Apart from Nonpast Tense, the prefix set is said to mark Imperfective Aspect. With nonpast time reference, the prefix set may indicate any aspectual value. With past time reference, the prefix set indicates Progressive or Habitual Aspect.[104] These values may both be called *imperfective* in the broader sense of the term, but do not indicate Imperfective Aspect as it is defined in section 3.3.2. I therefore conclude that an FG description of the Arabic verbal system can do without a π_1-operator for Perfective/Imperfective Aspect.[105]

5.3.2. Perfect Aspect

As the expression of a π_1-operator, the suffix set is used to indicate the resultant state of a completed SoA. Suffix forms with this function are often combined with the preverbal marker *qad* in CA/MSA and some MA dialects. I will concentrate on the suffix set without *qad* here, as the functions of *qad* will be discussed separately in section 5.5.

Some examples with the suffix set as a marker of Perfect Aspect are:

> Syrian Arabic (Cowell 1964: 330)
> (4) *halla' 'rtāḥ   bāl- ī*
>   now   <u>find relief</u>:3.M.SG   mind- my
>   'Now I feel relieved.'= 'Now my mind has found relief.'

In (4), the suffix form *'rtāḥ* is used to refer to the present state of 'feeling relieved' and may be combined with the temporal satellite *halla'* 'now'. The

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104. In most MA dialects, preverbal markers specify further aspectual distinctions in combination with the prefix set, but this is not relevant to the present discussion.

105. Fassi Fehri (1993: 144) rejects the relevance of the perfective/imperfective distinction for Modern Standard Arabic too.

present state is presented as the consequence of an (immediately) anterior [+ mom] SoA described by the punctual verb 'to find relief'. This use of inherently punctual verbs to indicate present states is common in many MA dialects as well as in CA/MSA, especially with cognitive (5), performative (6), and emotive (7) verbs, such as in the following examples:

> Modern Standard Arabic (Cantarino 1974: 61)
>
> (5) *'a   ṣaddaqta-   nī   l-'ān?*
>   Q   deem credible:2.M.SG-   me   now
>   'Do you believe me now?' = 'Have you deemed me credible now?'

> Moroccan Arabic (Caubet 1993a: 212)
>
> (6) *ɛ̣ṭēt-   ek   bent-   i!*
>   give:1.SG-   you   daughter- my
>   'I give you my daughter!' = 'I have (hereby) given you my daughter.'

> Egyptian Arabic (Hinds and Badawi 1986: 384)
>
> (7) *zihi't* ⁱ   *min   ig-   gawāz...*
>   become fed up:1.SG   of   the-   marriage
>   'I've had enough of the marriage...' = 'I have become fed up with the marriage...'

In the following sentence the suffix form *xaragit* 'she has gone out' occurs in the complement of *'alā'i* 'I discover, perceive', indicating a situation as the result from past action:

> Egyptian Arabic (Hinds and Badawi 1986: 797)
>
> (8) *'adawwar   ɛala   mrāt-   i   'ala'ī-   ha*
>   search:1.SG   for   wife-   my   discover:1.SG-   her
>   *xaragit*
>   go out:3.F.SG
>   'I look for my wife and find that she has gone out.'

Perfect Aspect is not exclusively indicated by the suffix set. Many dialects prefer the Active Participle with most verbs (see chapter 6). MSA often uses a combination of the suffix set with the preverbal marker *qad* for a perfect interpretation (see section 5.5).

According to the narrow definition of Perfect Aspect as presented in section 3.3.4.2, the suffix set does not represent Perfect Aspect in expres-

sions such as (9) with a temporal satellite to specify the occurrence time of the SoA:

    Gulf Arabic (Holes 1990: 106)
(9)   *xallaṣ*   *it-* *taqrīr* *is-* *subūε* *il-* *māḍi*
        finish:3.M.SG the- report the- week   the- last
        'He finished the report last week.'

In this sentence, the suffix set is interpreted as indicating Past Tense ('Did he finish the report? Yes, he finished it last week') or Past Mood ('He finished the report last week, and when he came by to give it to me, he met my secretary, who was just on her way out.'). These values of the suffix set will be discussed in the following section.

5.3.3. Past Tense and Past Mood

The most typical function of the suffix set is that of indicating past time reference. As was explained in section 3.3.5, I suggest making a conceptual distinction between two types of Past. *Past Tense* is used to relate a past event to the moment of speech S or another reference point R, and depicts this past event as somehow relevant at S or R. *Past Mood* indicates that a described event is evaluated as relevant at a moment in the past. The two opposing functions, which in many languages are expressed by the same form, can be described metaphorically by stating that Past Tense brings the past to us, while Past Mood takes us to the past. The suffix set may be used for Past Tense as well as Past Mood, in the FG model represented by π_2- and π_3-operators respectively.[106]

    In most varieties, the expression of Past Tense seems to be obligatory. The marking of Past Mood may be absent, for some varieties only in the

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106. In Jordanian Arabic the use of the suffix set is possibly restricted to the expression of Past Mood only. The suffix set appears to involve a shift in the deictic centre to a moment in the past, which contrasts with the absence of such a shift in the use of the Active Participle for the expression of Past Tense. Without further research it is not possible to substantiate my analysis, which is based on a limited amount of examples cited in Mitchell and El-Hassan (1994: 78). The special features of the Jordanian Arabic verbal system will be discussed in section 6.3.2 and 7.4.4.

restricted context of a particularly vivid stretch of narrative discourse, for other varieties in all situations where the intended past location of the reference point R is sufficiently clear from the linguistic or extralinguistic context. Since most grammars do not distinguish between the two types of past, it is difficult to determine whether a particular suffix form is used to express Past Tense or Past Mood.[107] In the following sentences I interpret the suffix forms as the expression of Past Mood:

      Modern Standard Arabic (Cantarino 1974: 59)
(10) *waqaftu   marratan bi- bābi   maktaba...*
      stop:1.SG once   at- door   bookstore
      'I stopped once at a bookstore...'

      Syrian Arabic (Cowell 1964: 329)
(11) *ḍeḥek   ᵉl- malek ᵉktīr*
      laugh:3.M.SG the- king   a lot
      'The king laughed heartily.'

As the answer to a question such as 'Have you seen him last week', I analyze the suffix set in (12) as the expression of Past Tense:

      Syrian Arabic (Cowell 1964: 329)
(12) *žtamaɛt   maɛ- o   ɛeddet marrāt*
      meet:1.SG with- him   number times
      'I've met him several times.'

The suffix set in (12) is not used in a narrative fashion, but states a (currently valid) proposition about the past. A similar use of the suffix set is found in (13):

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107. An example of an Arabic grammar which makes a similar distinction between different uses of the suffix set is Caubet's description of Moroccan Arabic (Caubet 1993a: 202). Caubet speaks of an *aoriste de récit*, a narrative tense which has no relation to the moment of speech.

Moroccan Arabic (Caubet 1993a: 202)

(13) *fūqāš žīti   men   fransa?*
     when   <u>come</u>:2.SG from   France
     'When did you arrive from France?'

Since the suffix set is used for both types of past time reference, the distinction between a modal and purely temporal use may appear to be unimportant for Arabic. The distinction is considered to be relevant for two reasons. First of all, there is a notable difference in the degree of optionality between the suffix set as the expression of Past Tense and the use of this form to indicate Past Mood. In narrative contexts, the verbal expression of Past Mood may be absent in many MA dialects, while Past Tense must be expressed. In the following example from Gulf Arabic, the prefix set *ayī* 'I come' is translated as 'I came', since the reference point is past. This incidence of Past Mood is not marked on the verb form.

Gulf Arabic (Holes 1990: 27)

(14) *yōm   ayī-   k   hēk in- nōba ana taw- ni*
     when   come:1.SG- you that the- time I   just- me
     yāy   min   il-hind
     come.AP:M.SG from   India
     'When I came to you that time, I'd just come from India.'

The second reason why Past Tense and Past Mood need to be distinguished is the possible co-occurrence of both values in verbal complexes with the auxiliary verb *kān$_v$*. The analysis of such verbal complexes will be discussed in chapter 7.

5.3.4.   Factual Mood and Exclamative Illocution

The suffix set may be used to assert the factuality of a proposition. It expresses the 100% validity of a known fact or a presupposition. This function of the suffix set is often explained as resulting from a metaphorical extension of the Past Tense meaning. Since we can be sure of what happened in the past, we can present future events as certain by describing them with the verb form ordinarily used for Past Tense. With the function to indicate Factual Mood, the suffix set occurs mostly in conditional con-

texts. Some examples with the quasi-conditional relative pronouns *man* 'whoever' (15) and *mā* 'whatever' (16) are given here:

> Modern Standard Arabic (Cantarino 1974: 60)

(15) *man faqada-*   *hā   faqada*   *eunṣuran hāmman*
    who <u>lose</u>:3.M.SG- it   <u>lose</u>:3.M.SG   element   important
    min   eanāṣiri- hi
    of   elements- his
    'Whoever loses it, loses one of his important elements.'

> Syrian Arabic (Cowell: 1964 339)

(16) *šū   ma   'elt   ḥa-   nrūḥ*
    what   that   <u>say</u>:2.SG FUT-   go:1.PL
    'No matter what you say, we're going.'

The use of the suffix set is not obligatory in these environments, as other verb forms may occur as well:

> Syrian Arabic (Cowell 1964: 339)

(17) *wēn   ma be-   trīd   tākol...*
    where that IND- want:2.SG   eat:2.SG
    'Wherever you'd like to eat...'.

Cowell (1964: 338) explains the difference between examples like (16) and (17) by describing the constructions with a suffix form as referring to *hypothetical conditions*, while those with other verb forms indicate *expected conditions*. The latter may also have a generalizing or dispositional sense.

    The distinction between hypothetical and expected conditions is difficult to grasp, and can be analyzed in terms of the FG distinction between extended predications (which refer to events) and propositions (which refer to facts). According to this analysis, sentence (15) can be paraphrased as 'for a human entity x_i of which the proposition X_i *he loses it* is valid, the proposition *he loses one of his important elements* is also valid'. This sentence involves two propositions, one in the subordinate phrase and one in

the main phrase. The factuality of both is asserted through the use of a suffix verb form.[108]

In the concessive sentence in (16), only the subordinate phrase contains a suffix form asserting the validity of the proposition. This sentence is interpreted as 'an entity x_i of which the proposition *you say it* is valid does not affect the future occurrence of the event *we're going*'.[109] Whereas the subordinate phrases in (15) and (16) have the internal structure of a proposition, that in (17) has the internal structure of an extended predication. It may be paraphrased as 'an entity x_i for which the predication *you'd like to eat there* is actual'. The distinction is thus conceptualized as the difference between a possible fact (X_i) which may be true or false and a possible event (e_i) which may or may not occur. I have discussed the distinction between different underlying conditional structures and the role of the suffix set in conditional phrases more extensively elsewhere (Cuvalay 1994b; 1995a).

The CA/MSA suffix set is used for the expression of wishes, oaths and curses, as in (18):

      Modern Standard Arabic (Cantarino 1974: 61)
(18) *qabbaḥa-*   *ka l-   lāhu   wa qabbaḥa*
       render ugly:3.M.SG- you the- God   and render ugly:3.M.SG
       ṣawta-   *ka!*
       voice-   your
       'May God render you and your voice ugly!'

This specific function of the suffix set is found in combination with a characteristic, rather rigid phrase structure. In MA dialects similar expressions occur in set phrases with a special intonation. I have therefore (tentatively) identified this use of the suffix set as the expression of a special Exclamative Illocution. Other verb forms do occur in exclamative sentences, and in most MA dialects the use of the prefix set is felt to be more natural.

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108. If this tentative analysis is correct, we may now speak of 'a proposition open in x_i' (see Dik 1989a: 71 for a description of open predications which function as restrictors on a term).

109. Note that the entity indicated by *šū* in (16) is of the *fourth-order* type (Hengeveld 1992b: 8), representing the product of a speech act. It should thus be indicated by the variable E_i, instead of x_i.

5.4.   The subdivision of the prefix set

5.4.1.   *The differentiation of the prefix set in CA/MSA*

In CA and MSA a further subdivision of the prefix set is achieved by different endings: *-u* for *indicative*, *-a* for *subjunctive*, and the absence of a vowel for *jussive* forms.[110] The indicative prefix set is the *unmarked form*, and is used in declarative or interrogative clauses with a present, habitual, or future interpretation. It is also used in embedded phrases which are presented as actual or certain, and after the preverbal markers *sa-/sawfa* and *qad*. *sa-/sawfa* functions as an optional future marker. *qad* occurs with the prefix and suffix set with various interpretations, which are described in section 5.5.

Some examples from MSA with the indicative prefix set are:[111]

- in a declarative sentence with present continuous (19a) or habitual (19b) meaning:

(19) a.   *'anā   'uḥibbu-   ka*
          I   love:IND.1.SG-   you
          'I love you.'

      b.   *ilā   hādihi   d-   dāri   yā'tī   l-   maliku*
          to   this   the-   house   come:IND.3.M.SG   the- king
          sirr-   an
          secret- ACC
          'The king comes to this house in secrecy.'

- in an interrogative sentence with present time reference:

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110. The forms marked by a circumfix have other endings. It is not necessary to discuss the morphological characteristics of these forms, since they will be glossed appropriately in the examples. I use the traditional terms *indicative* (IND), *subjunctive* (SUBJ), and *jussive* (JUS), although they do not fully cover the functions of these forms.

111. The examples are based on Cantarino (1974, 1975), who quotes them from original corpora. They are found on the following pages (1974): (19a): 63; (19b): 64; (20): 63; (21a): 77; (21b): 66; (23a): 78; (23b): 78; (24): 79; (25): 81; (27): 80; (28): 81. (1975): (22): 120.

(20) *mādā   taqūlu   l-'ān?*
     what   say:IND.2.M.SG   now
     'What do you say now?'

- with reference to the future with (21a) and without (21b) the preverbal
  marker *sa-/sawfa*:

(21) a.   *sa-   'abhatu   ɛani l-   'amr*
          FUT-   look:IND.1.SG into the- matter
          'I shall look into the matter.'
     b.   *al-   laylata   yutāhu   ra's*
          the- night   chop off:PASS.IND.3.M.SG   head
          'Tonight a head will be chopped of.'

- in an embedded phrase which is presented as actual:

(22) *'adraka   'anna- hā   fī š-   šurfati   tastajammu*
     realize:3.M.SG   that-   she in the- balcony   relax:IND.3.F.SG
     'He realized that she was on the balcony relaxing.'

The subjunctive prefix set is obligatory in subordinate phrases which are
presented as nonactual, as in (23):

(23) a.   *mādā   turīdu   'an 'aṣnaɛa?*
          what   want:IND.2.M.SG   that make:SUBJ.1.SG
          'What do you want me to do?'
     b.   *fāraqa-   hum   li- yuɛiddū   d- durūs*
          leave:M.SG-   them   so- prepare:SUBJ.3.M.PL the- lessons
          'He left them so that they might prepare the lessons.'

The negation of the future expressed by [*sa-/sawfa* + indicative prefix set]
is rendered by [*lan* + subjunctive prefix set]:

(24) *lan   'uhaddita-   ka   bi- šay'in   min   hādā*
     NEG   tell:SUBJ.1.SG-   you   of- thing   from   this
     'I will not tell you anything about that'.

The jussive prefix set is most frequently used in combination with the pre-verbal marker *lam* to express the regular negation of the suffix set.[112]

(25) *lam*   *'akun*   *qāsiy-*   *an*   *maɛa-*   *hā*
     NEG   be:JUS.1.SG   hard-   ACC   with-   her
     'I was not hard on her.'

The jussive prefix set may also occur in some types of conditional phrases:

     Classical Arabic (Peled 1992: 15)
(26) *'in*   *tuslim*   *natruk-*   *ka*   *min*
     if   convert:JUS.2.M.SG   leave:JUS.1.PL-   you   from
     al-   *qatli*
     the-   killing
     'If you convert to Islam we shall not kill you.'

In combination with the preverbal marker *li-*, the jussive prefix set has an optative or adhortative function:

(27) *li-*   *nadhab*   *min*   *hunā*
     OPT-   go:JUS.1.PL   from   here
     'Let us leave here.'

After the negation marker *lā* the jussive prefix set is interpreted as a negative optative or a prohibitive:

(28) *lā*   *takun*   *mutasarriɛan!*
     NEG   be:JUS.2.M.SG   hasty
     'Don't be hasty!'

The prefix verb stem with jussive 2nd person endings functions as a special imperative form, which is used to instruct one or more persons to do something. The paradigm of CA/MSA imperative forms is given in table 14:

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112. Other types of negation do exist, but are not included in this study. For a description of negation in MSA I refer to Moutaouakil (1991).

Table 14. CA/MSA imperative forms of the verb *katab* 'to write'

Form	Masculine	Femine
Singular	*(u)ktub*	*(u)ktubī*
Dual	*(u)ktubā*	*(u)ktubā*
Plural	*(u)ktubū*	*(u)ktubna*

An additional, but rarely used ending is the *energic* suffix *-an* or *-anna*, which may be added to the jussive prefix set. It occurs in combination with the preverbal emphatic marker *la-* to strengthen the Illocutionary Force of declarative sentences with future time reference:

      Classical Arabic (Fischer 1972b: 98)
(29) *ḥalafa*   *la-*   *yaqtul-*   *anna*
       swear:3.M.SG EMP- kill:JUS.3.M.SG- ENERG
       'He swore he would surely kill.'

A 2nd person jussive form with an additional energic suffix is often interpreted as a strongly imposed command or (with negation) prohibition. An energic inflection of the imperative form strengthens the Directive Illocutionary Force.[113] The subdivision of the prefix set in CA/MSA is summarized in table 15.

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    113. Testen (1993) argues that the function of the Arabic energic suffixes is not well defined, and should be investigated on the basis of corpora.

Table 15. The subdivision of the prefix set in CA/MSA

Ending	Additional marking	Function(s)
indicative	ø	Habitual Aspect Nonpast Tense
	sa-/sawfa	Future Tense
	qad	Inferential Mood[114]
subjunctive	ø	Nonactual Mood
	lan	Negation Future Tense
jussive	ø	Conditional Optative Adhortative
	lam	Negation Perfect Aspect Negation Past Tense
	-an/-anna	Strengthened Declarative
imperative	ø	Directive Illocution
	-an/-anna	Strengthened Directive

5.4.2. The differentiation of the prefix set in MA dialects

Prefix sets in the MA dialects do not have different endings. In most varie-
ties, the prefix set is differentiated by using preverbal markers to indicate
further TMA distinctions. The forms and meanings of these preverbal
markers are not necessarily identical for the individual dialects. In Egyptian
Arabic, for instance, the preverbal marker *bi-* expresses Progressive (30a)

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114. See section 5.5.2 for an analysis of [*qad* + indicative prefix set].

and Habitual Aspect (30b), and is sometimes used for the expression of a special *Generic Mood* (30c).[115]

       Egyptian Arabic (Wise 1975: 9/14)
(30) a. *bi-*   *yiktib-*   *l-*   *u* *dilwa'ti*
            PROG- write:3.M.SG to- him now
            'He is writing him now.'
     b. *bi-*   *yiktib-*   *l-*   *u* *kulli* *gumɛa*
            HAB- write:3.M.SG to- him every week
            'He writes him every week.'
     c. *is-* *sukar* *bi-*   *ydūb*   *fi-* *l-* *mayya*
            the- sugar GEN- dissolve:3.M.SG in- the- water
            'Sugar dissolves in water.'

The preverbal marker *ḥa-* is used to indicate Prospective Aspect (31a), Future Tense (31b), and Assertive Mood (31c).[116]

       Egyptian Arabic (Wise 1975: 6/xviii)
(31) a. *ḥa-*   *rawwaḥ*   *dilwa'ti*
            PROS- go home:1.SG now
            'I am about to go home.'
     b. *miš* *ḥa-*   *nsāfir*   *bukra*
            NEG FUT- leave:1.PL tomorrow
            'We shan't leave tomorrow.'
     c. *ɛizzat* *ḥa-*   *ykūn*   *fi* *bēt ilbunn* *dilwa'ti*
            ɛIzzat ASS- be:3.M.SG in coffeehouse now
            'ɛIzzat will be in the coffeehouse now.'

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115. The difference between Habitual Aspect and Generic Mood is described by Cuvalay (1991).

116. The prospective meaning of the Egyptian Arabic prefix set with the preverbal marker *ḥa-* is demonstrated convincingly by Woidich (1991: 80-81), who describes the use of this form in *ḥāl*-phrases (circumstantial phrases which must indicate a state) such as *sabni w ana ḥataša'* 'he left me while I was about to explode'. The special Assertive Mood exemplified in example (31c) indicates a high positive commitment of the Speaker to the validity of the proposition, which is an epistemological distinction of the π_3-layer in the FG model.

All MA dialects have imperative forms, which are generally used in expressions with a Directive Illocutionary Force. Some interesting additional functions have been observed. Munzel (1982) cites Cairene Arabic examples of imperative forms used in combination with the 2nd person suffix set of *kān*$_V$ 'to be' to express an emphatic reproach. An example of this *kunt iemil* 'you should have done!'-form is given in (32):

> Cairene Arabic (Munzel 1982: 77)
> (32) *kunti*   *qulī-*   *li*   *nti*
>   be:2.F.SG   say:IMP.F.SG- me   you.F.SG
>   'You (fs) should have told me!'

Shehadeh (1983) reports similar constructions in the Palestinian Kufir-Yasīf dialect. The use of the imperative form is in these dialects not limited to the 'ordinary' directive function, and may express a past obligation.

A so-called *descriptive* use of the imperative occurs in a number of bedouin dialects (Palva 1977, 1984). With a descriptive function the use of the imperative form is not limited to the 2nd person, and may refer to first arguments in the 1st or 3rd person as well. On the basis of a careful analysis, Palva (1984: 380) suggests that the descriptive imperative was originally used asyndetically in an exclamatory manner only, to highlight a sudden or unexpected turn in a story. After a certain conventionalization of this function the imperative form came to be used in several types of consecutive sentences, with a gradual loss of the associated suddenness or unexpectedness. In some dialect areas the descriptive imperative may occur syndetically to express a quick succession in a narrative sequence. An example is provided in (33):

> Hesbāni Arabic[117] (Palva 1977: 19)
> (33) ...*w- ğeza*   *een*   *el- earab,*
>   and leave:3.M.SG from   the- arabs
>   *u-   hawwed*   *een- ha*   *w- šedd*
>   and- dismount:IMP.M.SG from- her and- fasten:IMP.M.SG

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117. Hesbān is a place between the Dead Sea and εAmmān (Jordan), populated by former small-cattle nomads (Palva 1977: 8).

emɛaraget- ha zēn u rečeb   eb- dā̠harha...
saddle-   her well and mount:3.M.SG   the- mare
'...and he left (the camp of) the tribe. But he dismounted (the mare)
quickly and tied fast the saddle: then he mounted the mare...'

Descriptive imperative verb forms are reported in Nigerian Arabic as
well:[118]

Nigerian Arabic (Owens 1993: 239)
(34) *máxa̠dar ke, árkab   fi l- watīr ámiš,*
     journey so climb:IMP.M.SG in the- car   go:IMP.M.SG
     áše̠ri   lē- k hāja ke, dá mašēt
     buy:IMP.M.SG   for- you thing so this go:1.SG
     'A short journey, get in a car and go (to Maiduguri) and buy some-
     thing, that I did.'

The nondirective uses of the imperative form are interesting from a theo-
retical point of view. If we assume that the directive function of the impera-
tive form existed prior to its nondirective uses, we must conclude that a
form with an illocutionary operator value may come to express operator
values of a lower layer. In case of the *kunt iɛmil*-construction, the impera-
tive form expresses a deontic modal distinction of the π_3-layer, with the
Speaker as the source of the obligation and the Addressee as target. The
sequencing function of the descriptive imperative may be analyzed as the
expression of a temporal operator of the π_2-layer.

These findings are contrary to the diachronical tendency reflected in
Hengeveld's second hypothesis (Hengeveld 1989, see also section 2.3.1.2),
which predicts that diachronical developments in the field of operators
follow the direction $\pi_1 > \pi_2 > \pi_3 > \pi_4$. I will pay some attention to the ana-
lysis of imperatives in the summary of this chapter.

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118. Owens (1993: 239) states that the Nigerian Arabic imperative forms in
contexts such as in (34) are used to establish a hypothetical condition, but his
examples do not seem to point to a specific *conditional* use.

5.5. The functions of *qad*[119]

5.5.1. *[qad + suffix set] in CA/MSA*

The preverbal marker *qad* is used with the suffix as well as the prefix set in CA/MSA. I will discuss the functions of *[qad +* suffix set] first; the use of *[qad +* prefix set] will be treated in section 5.5.2. *[qad +* suffix set] indicates that something just occurred (and that a continuing influence is/was still in force), that something occurred before S/R (without implying its continuing influence), or that something really occurred at S/R.[120] Thus, *[qad +* suffix set] fulfils the same functions as the suffix set without *qad*, except for the expression of Past Mood. The example in (35) shows a combination of *[qad +* suffix set] with the interpretation of Perfect Aspect:

Classical Arabic (Fischer 1972b: 94)
(35) *qad ǧuɛtu*
PM <u>become hungry</u>:1.SG
'I am hungry.'

qad ra'ā in (36) indicates Past Tense, relative to a reference point in the past:

Modern Standard Arabic (Cantarino 1974: 68)
(36) *sa'ala-   hu   hal qad ra'ā   'aḥadan*
<u>ask</u>:3.M.SG- him INT PM <u>see</u>:3.M.SG someone
'He asked him whether he had seen anyone.'

The use of *qad* in (37) adds a personal commitment to the truth of the statement (Assertive Mood), here translated with the modal adverbial 'certainly':

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119. For the data used in this section I am grateful to Martine Vanhove, who drew my attention to a number of passages concerning the use of *qad* in both CA and MA dialects which I did not come across or overlooked while writing the first version of this chapter.

120. *qad* is called both *ḥarf at-taḥqīq* 'the particle indicating perfect certainty' and *ḥarf at-taqrīb* 'the particle of approximation' by Arab grammarians, the latter "because it approximates the past to the present" (Kinberg 1989: 170).

Modern Standard Arabic (Cantarino 1974: 68)
(37) *fa-*   *qad kānat*   *ḥājatu-* *hu* *'ilay-* *hi* *šadīdan*[121]
     because- PM <u>be</u>:3.F.SG need-   his for-   it strong
     'Because his need for it was certainly very great.'

[*qad* + suffix set] occurs rarely in negative clauses, questions initiated by the interrogative marker *hal* (as in (36)), and protases of conditional sentences initiated by *in*, while the use of *qad* is quite obligatory when the suffix set appears in a circumstantial phrase, in special presentative constructions, or in the expression of wishes or oaths (Kinberg 1989: 170). On the basis of an investigation of the co-occurrence of *qad* with different types of verbs in the complement of oaths, Kinberg (1989: 177) tentatively concludes that [*qad* + suffix set] was used to mark Perfect Aspect in the preclassical stage of the language. In the classical period [*qad* + suffix set] came to be used as a marker of relative Past Tense as well.[122]

Kinberg identifies this development as in accordance with the universally attested tendency of forms which originally denote Perfect Aspect to acquire Past Tense meaning. His observations are confirmed by Doss (1984: 362), who describes the obligatory use of *qad* to indicate the 'past in the past' in MSA (*kāna qad faeala*), even though this could still be expressed without *qad* in CA (*kāna faeala*).[123]

The different uses of [*qad* + suffix set] make it difficult to characterize the specific function of the preverbal marker. As a hypothesis for further research, *qad* may be considered to differentiate both Perfect Aspect and Past Tense from Past Mood, at least in Classical Arabic. According to Kinberg (1989: 177) [*qad* + suffix set] occasionally occurs with an 'aorist' function in MSA (journalistic style), which suggests that *qad* is on its way to become a semantically empty addition to the suffix set, perhaps used mainly to distinguish formal, literary style from plain colloquial, which in most regions does not have *qad* (Doss 1984: 363).

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121. This example is taken from Taha Ḥusain's *Al-ayyām*, page 13/14 of the first volume. The original has the grammatically correct feminine form *šadīdatan*, by Cantarino (1974: 68) incorrectly taken over as *šadūlan*.

122. The classical period ranges from the second half of the 8th century until the 10th century A.D. (see section 1.2).

123. These constructions with the auxiliary verb *kān*$_V$ will be discussed further in chapter 7.

5.5.2.   *[qad + prefix set] in CA/MSA*

With the preverbal marker *qad*, the prefix set is always in the indicative
form. The combination is most often associated with a degree of uncertainty
with respect to the occurrence of the SoA, translated with 'perhaps', 'may',
or 'might' as in (38):

Modern Standard Arabic (Cantarino 1974: 71)

(38) a.   *xāfa*   *mā*   *qad yakūnu*   *bi- l-   ġār*
be afraid:3.M.SG what   PM   be:IND.3.M.SG in- the- cave
'He was afraid of what might be in the cave.'

b.   *wa   qad yaġāru*   *min- hu*   *baɛḍu- hum*
and   PM   be jealous:IND.3.M.SG of- him   some- them
'And perhaps some of them will be jealous of him.'

The combination of *[qad* + prefix set] in (38) expresses *Objective Possibi-
lity*, in FG represented at the π_2-layer. This follows from the structure in
which *[qad* + prefix set] is part of an embedded phrase with the internal
complexity of an extended predication e_i.[124] Extended predications do not
have a position for π_3-operators, which capture the grammatical expression
of subjective evaluations concerning the truth of a proposition X_i.

It is not clear whether *[qad* + prefix set] may be used to express sub-
jective possibility (= Inferential Mood, represented by a π_3-operator) as well.
The example in (38b) seems to allow for both interpretations: the statement
may be presented as objectively inferred from the circumstances without the
involvement of personal commitment, but it may also express a subjective
conclusion based on an epistemic analysis of the situation. As this kind of
subtle differences can not be inferred from the translations, I will tentatively
assume that *[qad* + prefix set] may express both types of possibility.

In Classical Arabic, *[qad* + prefix set] may refer to continuous (39) or
habitual (40) situations in the present (39) or past (40), especially if *qad* is
prefixed by the preverbal emphatic marker *la-*.[125]

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124. For a classification of complements in terms of their internal complexity
I refer to Dik and Hengeveld (1991).

125. See Kinberg (1988: 291-292) for a review and examples of all the func-
tions ascribed to *[qad* + prefix set] and *[la-qad* + prefix set].

Classical Arabic (Kinberg 1988: 291; Qur'ān 16: 103)
(39) *wa- la-   qad naɛlamu   anna- hum yaqūlūna...*
     and- EMP- PM know:IND.1.PL   that- they say:IND.3.M.PL
     'And we know very well that they say...'

Classical Arabic (Kinberg 1988: 291)
(40) *wa- la-   qad adxulu   l-   xibā'- a*
     and- EMP- PM enter:IND.1.SG   the- tent   ACC
     'And sometimes I entered the tent.'

An assertive meaning of [*qad* + prefix set] may be encountered without the preverbal marker *la-*. In (41), [*qad* + prefix set] expresses a high personal commitment to the future occurrence of an event (Assertive Mood).

Modern Standard Arabic (Reckendorf 1921: 302)
(41) *mawtu-   ka   qad yasurru   ṣ- ṣālihīn-   a*
     death-   your   PM please:IND.3.M.SG   the- righteous-   ACC
     'Your death will surely please the righteous people.'

According to Brockelmann (1913: 508), *qad* is a reduced form of the verb **qad(d)am*$_V$ 'to do something earlier', which is no longer used with this meaning.[126] A construction with this verb and a circumstantial verb phrase was grammaticalized, whereby the original main verb lost its inflections and became a preverbal marker. Brockelmann suggests that the meaning of 'having occurred in the past' was extended to the meaning of a possibly repeated occurrence, which could finally account for assertive uses too. After a survey of the occurrences of *qad* in some MA dialects I will propose an alternative development based on an originally stative meaning of *qad*.

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126. The etymology of *qad* from **qad(d)am*$_V$ is attributed to Paul Lagarde. M. Cohen (1924: 61-62) points at the use of [*qad* + pronominal suffix] in nonverbal expressions such as *qadnī* 'it is enough for me', also mentioned by Reckendorff (1921: 122). M. Cohen argues that an etymology based on **qad(d)am*$_V$ does not explain the nonverbal occurrences of *qad*, and suggests the verb *qadd*$_V$ 'to cut' as a possible source.

5.5.3. ǧid/gid/cid *in Najdi Arabic*

In view of the lack of a precise definition of the functions of *qad* in CA and MSA, the accounts of its uses in MA dialects are particularly interesting. In Najdi Arabic (which is spoken in Central Arabia) the preverbal marker *qad* is realized as *ǧid*, *gid*, or *cid*, and occurs only with the suffix set. In statements with present time reference, [*ǧid/gid/cid* + suffix set] is interpreted as an experiential perfect, indicating that a particular event occurred at least once during some time in the past (Ingham 1994a: 106).[127]

> Najdi Arabic (Ingham 1994a: 104)
(42) *hu   ǧid   ricib*
     he   PM   ride:3.M.SG
     'He has ridden.' (i.e. 'he knows how to ride, but is not riding now')

The preverbal marker may occur in a negative context, as in (43):

> Najdi Arabic (Ingham 1994a: 105)
(43) *mā   gid   šift-   ih*
     NEG   PM   see:1.SG- him
     'I have never seen him.'

With a past time reference point (which in Najdi Arabic is rarely indicated by a verbal form) [*ǧid/gid/cid* + suffix set] is interpreted as expressing relative Past Tense (44a), possibly with an experiential perfect meaning (44b). A resultative (Perfect Aspect) interpretation is still excluded (44c):

> Najdi Arabic (Ingham 1994a: 105/106)
(44) a.   *fzaɛat   šammar   lākin   hāyis   cid   rāḥ*
          respond:3.F.SG   Shammar   but   Hāyis   PM   go:3.M.SG
          'Shammar responded (to the call), but Hāyis had already gone.'

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127. Ingham (1994a: 106) does not use the term *experiential perfect*, but his description and contrastive examples fit Comrie's definition of this function, which distinguishes *Bill has been to America* (experiential perfect = Past Tense) from both *Bill has gone to America* (perfect of result = Perfect Aspect) and *Bill was in America* (simple past = Past Tense or Past Mood) (Comrie 1976: 58-59, see also section 3.3.4.2).

b. *mā   ǧid jarrab   rgād   an- niswān*
   NEG PM <u>experience</u>:3.M.SG sleeping the- women
   'He had not experienced the love of women.'

c. *abū- ha   ǧid axa<u>d</u>   umm-   ih*
   father- her PM <u>marry</u>:3.M.SG mother- his
   'Her father had married his mother.' (i.e. at some earlier time,
   but the marriage was no longer in force due to death or divorce)

According to the strict definition of Perfect Aspect introduced in chapter 3
(section 3.3.4.2), the experiential perfect function of [*ǧid/gid/cid* + suffix
set] is treated as special interpretation of Past Tense. It is not clear why this
special interpretation is strongly implied in the present, and not with a
reference point in the past.

In the Southern Najd the preverbal marker *ǧid* occurs in combination
with an Active Participle (AP) as well. A personal pronoun may separate
the preverbal marker from the AP:

Southern Najdi Arabic (Kurpershoek 1994: 138)
(45) *wi- wjīh- ha   ṭ- ṭiyyār ǧid hi   mahādīm*[128]
     and- faces- their the- alert PM them broken:AP
     'And their heads, once upright and alert, are hanging down.'

[*ǧid* (+ pronominal suffix) + AP] expresses about the same meaning as the
AP without *ǧid*, which is Perfect Aspect in example (45).[129] [*ǧid* + pro-
nominal suffix] can be used without a following verb form as in (46):

Southern Najdi Arabic (Kurpershoek 1994: 321)
(46) *yōm   ǧid-   hum   fi- s- skak...*
     when PART-   them in- as- Skak
     'When they had come to as-Skak...'

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128. As in CA/MSA, the plural of nonhuman entities turns up as feminine
singular in the pronominal forms *-ha* and *hi* in this example from Southern Najdi
Arabic.
129. For a complete survey of the verbal functions associated with the Active
Participle I refer to chapter 6.

Similar uses of [*gid* + pronominal suffix] occur in the Arabic dialect spoken in Dofār (Southern Oman) and Ḥaḍramawt (South-Yemen) (Rhodokanakis 1911: 138). In this type of construction, the function of [*gid* + pronominal suffix] resembles that of a present tense copula in a locative or existential construction.[130] I will describe the functions of similar particles in some other dialects in the next sections.

5.5.4. qad/qa/ġad/ġa/gad/ga *in MA dialects of Yemen*

The preverbal marker *qad/qa/ġad/ġa* occurs in the dialects of Yāfiε (Yemen) with the suffix set, the prefix set, and the prefix set with one of a set of other preverbal markers.[131] *qad/qa/ġad/ġa* may be separated from the verb by the (usually pronominal) first argument, especially in constructions with the prefix set or the prefix set with another preverbal marker.

[*qa/qad/ġad/ġa* + suffix set] indicates Perfect Aspect or Past Tense, sometimes in combination with high certainty. Some examples are:

Yāfiεi Arabic (Vanhove 1995: 268)
(47) a. *qa 'akalk*ʷ
          PM <u>eat</u>:1.SG
          'I have eaten (and I am no longer hungry).'
      b. *qa waṣṣōk   ɛahd   ab-   ī*
          PM <u>keep</u>:1.SG promise father- my
          'I have certainly kept the promise to my father.'

[*qad/qa/ġad/ġa* + bare prefix set] expresses a high commitment of the Speaker to the validity of the proposition (Assertive Mood):

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130. For an FG analysis of locative and existential constructions and a description of the various functions of copulas I refer to Hengeveld (1992b: sections 3.4 and 5.1.3.2).

131. The Yāfiεi Arabic preverbal marker *qad/qa/ġad/ġa* is claimed to be used in nominal sentences as well, but no examples are provided (Vanhove 1995: 267).

Yāfiɛi Arabic (Vanhove 1995: 268)
(48) *ġad yākulu-*   *h*   *l-*   *waḥš*
PM eat:3.M.SG-   him the- monster
'The monster will certainly eat him.'

In (49), [*qa* + *š-* + prefix set] indicates Prospective Aspect (*š-* is considered to function as a marker of Future Tense):

Yāfiɛi Arabic (Vanhove 1995: 268)
(49) *wa   hī   qa   š-   tesqī*   *šān ṭiyūr*
and she PM FUT- give to drink:3.F.SG   for birds
'And she was about to pour water for some birds.'

An example of [*qad* + pronoun + *ba-* + prefix set] is interpreted as indicating anteriority in the future (*bā-* is analyzed as a marker of Future Tense):[132]

Yāfiɛi Arabic (Vanhove 1995: 268)
(50) *qad hū   bā-   ygī,   bā   yenzil*
PM he   FUT- come:3.M.SG FUT   descend:3.M.SG
'(When) he will have come, he will descend.'

Behnstedt (1987: 160) mentions a reflex of *qad* (*ga-*) in the dialect of the region of Ṣaɛdah (Yemen), which is combined with a pronominal suffix and an Active Participle to indicate Perfect Aspect:

Nadīri Arabic (Behnstedt 1987: 171)
(51) *ġarba*   *ɛalē-   nā   wu   kān*
become evening:3.F.SG   on-   us   and   be:3.M.SG

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132. In view of the fact that the preverbal markers *š-* in (49) and *bā-* in (50) are both interpreted as indicating Future Tense in the MA dialects of Yāfiɛ, it seems strange that the combination of these preverbal markers with *qad/qa* would have different functions. If the occurrence of *qad* in (50) is related to the second prefix form with *bā* in the sentence, this combination of [*qad* + pronoun + *bā* + prefix set] could be analyzed as expressing Prospective Aspect too. This interpretation leads to a translation of the sentence as 'When he will come, he will be about to descend'.

> ga- k tāɛib me s- safar...
> PM- you become tired.AP:M.SG from the- journey
> 'It became evening and you were tired from the journey...'

Watson (1993: 8) describes *gad* in the dialect of Ṣanɛā as a modal particle, which occurs in nonverbal expressions with pronominal suffixes, and with and without these suffixes as a preverbal marker. The pronominal affixes have the independent form for most person, gender, and number combinations, as in *gadiḥna maɛākum* 'we are with you' and *gadantū mixazzinīn* 'you m.pl. are chewing (*qāt*)', but the dependent form is used for the first person singular, as in *gadanī hānā* 'I am here'.[133] The 2nd person singular pronouns occur in the two alternative forms, as in *gadant/gadak dārī* 'you m.sg. know'. *gad* may also precede the presentational particle *d̲ā*, in which case the combination is pronounced as *gad̲ d̲ā* 'there!'.

In the nonverbal examples, [*gad* + proniminal suffix] seems to function as a copula. Some examples are:

Ṣanɛāni Arabic (Watson 1993: 189/257/329)
(52) a. gad- hī malān mā'
       PM- 3.F.SG full water
       'It is full of water.'
   b. mā gad- ū- š ṭayyib
       NEG PM- 3.M.SG NEG good
       'He is not good.'
   c. law-mā gad-ī wāhimih gawī gad-ī mitgilih
       when PM-3.F.SG pregnant very PM-3.F.SG mitgilih
       'When she is very pregnant she is (said to be) *mitgilih*.'

Watson identifies the function of *gad* as modal, but of the 147 different example sentences with *gad* in her grammar of Ṣanɛāni Arabic, only ten indicate a modal meaning of possibility. They all concern combinations of *gad* with a bare prefix verb form, which suggests that the modal meaning of possibility is expressed by the verb form rather than by *gad*. Some examples are:

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133. The independent form of the Ṣanɛāni Arabic first person singular pronoun is *'anā*.

Ṣanɛāni Arabic (Watson 1993: 69)

(53) a. *gad yukūn   fī   l- bayt*
           PM be:3.M.SG in   the- house
           'He could be in the house.'

     b. *gad- hū   yijī*
           PM- 3.M.SG come:3.M.SG
           'He may come.'

[*gad* + bare prefix set] may also express Habitual Aspect (54a), and occurs in one example with a prohibitive function (54b). These are functions which may be expressed by the bare prefix set without *gad* as well.

Ṣanɛāni Arabic (Watson 1993: 356/76)

(54) a. *gad- ī   tithākā   ɛādī sāɛ- ma- ḥna*
           PM- 3.F.SG   speak:3.F.SG normal such- as- we
           'She speaks normally like we do.'

     b. *lā   gad tlammaḥ   wa- lā*
           NEG PM insinuate:2.M.SG and- NEG
           'Don't insinuate!'

Combinations of *gad* with other verb forms also reflect one or more functions of the same verb form without *gad*. [*gad* + suffix set] may express Perfect Aspect (55a) or Past Tense (55b), the latter possibly with the interpretation of an Experiential Perfect (55c). Watson gives 58 examples of [*gad* + suffix set], none of them with a pronominal suffix attached to *gad*.

Ṣanɛāni Arabic (Watson 1993: 296/136/266)

(55) a. *bi- h   nās   gad jahhazū   'aw*
           by- 3.M.SG people PM <u>prepare</u>:3.M.PL or
           bi-   jahhizū   ɛalā   kibāš
           PROG- prepare:3.M.PL on   sheep
           'There are people who have prepared or are preparing sheep.'

     b. *'alladī mā   gad jā-   š   awwal*
           who NEG PM <u>come</u>:3.M.SG NEG   first
           al- ɛīd   arāɛī- h
           the- festival   await- 3.M.SG
           'Whoever did not come on the first day of the festival I wait for (him).'

c. *gad akalti   l-   maṭīṭ awlā māšī?*
    PM <u>eat</u>:2.F.SG the- maṭīṭ or   not
    'Have you eaten *maṭīṭ* or not?'

Most examples of [*gad* + *bi-* + prefix set] indicate Progressive Aspect, as in (56), but other functions associated with the Ṣaneāni preverbal marker *bi*, such as Habitual Aspect or 'near past', may occur too.

Ṣaneāni Arabic (Watson 1993: 79)
(56) *mā-   hū?   gad- ū   bi-   bsir*
     what- 3.M.SG PM- 3.M.SG   PROG- look:3.M.SG
     al-   mikrafūn
     the- microphone
     'What is it? He's looking at the microphone.'

The combination of *gad* with the prefix set and a preverbal future marker (usually *ɛa-*) yields an interpretation of Prospective Aspect, as in (57):

Ṣaneāni Arabic (Watson 1993: 79)
(57) *gad aḥna   ɛa-   nūṣal*
     PM we   FUT-   arrive:1.PL
     'We are about to arrive.'

Watson does not give many examples of *gad* in combination with another preverbal marker: I counted seven with *bi-*, five with *ɛa-*, and only one with *ša-*. In most of her examples *gad* figures as a present tense copula in a nominal sentence, or in a sentence with a participial predicate. In these constructions *gad* can be characterized as a *discriminating* copula in terms of Hengeveld's classification (Hengeveld 1992b: 191-192). Discriminating copulas function as a sign of (nonverbal) predication. In languages which do not require the use of a copular verb in the present tense, a discriminating copula may be used to unambiguously indicate a predicative relation.

A similar interpretation explains the use of *gad* in verbal sentences, if we assume that verb phrases can be used predicatively to assign a property. *gad* then functions as a present tense auxiliary, indicating the predicative relation of property assignment. Thus, the example in (57) is paraphrased as 'we are such that we will arrive', which neatly reflects the prospective

relation between a present state and a future event. This complex predication can be represented as in (58) (based on Hengeveld 1992b: 260):[134]

(58) (PRES e_i: [(f_i: (FUT e_j: [(f_j: *wasal*$_V$ (f_j)) (x_i)$_{Ag}$] (e_j)) (f_i))
       (x_i: 1 pl (x_i)$_{\emptyset}$)$_{\emptyset}$] (e_i))
       'We are characterized now (PRES) by our future (FUT) arrival.'

The complex predicate (f_i) in (58) consists of a predication (e_j), which has its own predicate (f_j), of which the first argument (x_i) is coreferential with the first argument of the complex predicate as a whole. A temporal operator with the value Future Tense is expressed on the verbal predicate, and accounts for the preverbal future marker *ɛa-* and the prefix conjugation of *wasal*$_V$ 'to arrive'. A temporal operator with the value Present Tense is associated with the complex predicate. This complex predicate is a predication and hence 'nonverbal' (although it contains a verb), which triggers the insertion of *gad* as an optional marker of the predicative relation. The way in which copulas and auxiliaries are treated in FG will be discussed more fully in chapter 7.

The description of *gad* and its variants as a discriminating copula and auxiliary particle appears to fit the examples in the other Yemeni Arabic dialects discussed here too. For an adequate analysis, more information concerning the degree of optionality of *gad* in different constructions is needed, however.[135]

5.5.5. *Other preverbal markers which resemble CA* qad

Holes (1983: 32-33) describes the use of *čūd, kid, čid, ǧid*, and *(mā) gad* in different varieties of Bahraini Arabic. The examples all show a combination of the preverbal marker with the suffix set, expressing possibility, proba-

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134. Variables which are not relevant for the construction of the complex predication are left out of the representation in (58).

135. Some support for my analysis comes from the possible derivation of Yemeni Arabic *gad* from the verb *gaɛad*, by Piamenta (1991: 406) described as:
   "to spend time (an-Nadīr); to be (auxiliary). *'anā gaɛadtu zǧayyar* 'I was young, small.' *qāɛid* (auxiliary AP). *qāɛid biyadī* 'it is in my possession', *qāɛid* + imperfect denoting present continuous (or durative or iterative aspect)."
Similar uses of *gaɛad/qaɛad* as a (semi-)auxiliary occur in other varieties as well.

bility, and temporal meanings similar to those expressed by the English adverbials 'yet' and 'already'. Holes suggests that these forms may all be related to Classical Arabic *qad* or *kād*$_V$ 'to be on the point, to be about'.

In Maltese a preverbal marker *qed* (realized as /'et/) may be used in combination with the prefix set.[136] This preverbal marker is not considered to be related to the CA/MSA *qad*, but presumably derives from the auxiliary AP *qieghed*, which is equivalent to the CA/MSA Active Participle *qāeid* from the verb *qaead*$_V$ 'to sit'. Maltese *qieghed* is also used to mark Progressive Aspect in its inflected form (Borg 1981: 146). The uninflected form *qed* has the same function (59a), but may indicate a not necessarily progressive Present Tense (59b) and Habitual Aspect (59c) as well:[137]

Maltese (Vanhove 1993: 115/132/125)

(59) a. *wa't*   *li*   *'et- yīkol*   *ğīt*   *tiğīğa*
       moment   that   PM- eat:3.M.SG   <u>come</u>:3.F.SG   chicken
       'While he was eating, a chicken came.'

    b. *'et- tāra*   *ši*   *ḥāğa*   *fī- l- bīr?*
       PM- see:2.SG some   thing   in- the- well
       'Do you see something in the well?'

    c. *dawn*   *it- tiğīğ*   *kemm*   *'et- ibīdu*   *ftīt*
       these   the- chicken   how   PM- lay eggs:3.PL   little
       dīn   *il- ḥabta!*
       this   the- time
       'These chicken, how few eggs are they laying these days!'

Agius and Harrak (1987: 174) mention the use of similar forms as a preverbal progressive marker with the prefix set in the following Iraqi Arabic varieties: the Muslim dialect of Mawṣil (*qad* and *ead*), the Christian dialect of Mawṣil (*qed*), the Jewish dialect of Baghdad (*qad*), and the Christian dialect of Baghdad (*qa*). As other MA dialects in the region express Progressive Aspect with inflected forms of the Active Participle *gāeid, qāeid,* or *ğāeid* (all literally translated as 'sitting') it is plausible that the shorter

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136. In the text, Maltese forms are given in the standard Maltese orthography. The examples are in phonological transcription.

137. Borg (1981: 149) speaks of *restricted habituality,* as the form is not used in the generic or dispositional sense.

preverbal markers derive from a contraction of *qāɛid*, as the result of phonological reduction.[138]

The existence of the Maltese preverbal marker *qed*, which is formally equivalent to CA/MSA *qad*, but apparently not related to it, demonstrates that similar forms in contemporary MA dialects do not necessarily go back to CA *qad*, but may as well be derived from a form of the verb *qaɛad*$_v$ 'to sit', or one of its variants. It is also feasible that CA/MSA *qad* itself originated from the AP *qāɛid* 'sitting', which would explain its function of relating a past occurrence to a present state in combination with the suffix set (i.e. 'he is sitting having done something' as metaphorically indicating that the result of a past action is still present). In combination with the prefix set, *qāɛid* could originally have had a progressive and prospective value, which may have evolved into a habitual and dispositional meaning. A dispositional meaning can be interpreted as certain, but also as possible, and subsequently as doubtful. Other possible derivations have been suggested, however (see footnote 126), and there may have been two different sources, one for *qad* with the suffix set and one for *qad* with the prefix set, which later culminated in a single form.

5.6. Conclusions

5.6.1. *The assessment of TMA values in the FG model*

Although a complete evaluation of the FG approach to verbal expression in Arabic must be postponed until I have treated the simultaneous expression of different operator values in verbal complexes (chapter 7), some questions concerning the adequacy of the theoretical tools can be raised here. An important point concerns the amount of detail in the model. The differentiations made in the E-structure are sometimes more refined than those found in the grammars. This is for instance the case with respect to the Egyptian Arabic 'future' marker *ḥa-*, which may have a prospective (π_1), future (π_2), or assertive (π_3) value, all assigned to different layers in the E-structure (section 5.4.2). Here, apparently, the language does not need to

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138. See Agius and Harrak (1987: 175) for some phonological arguments for this hypothesis. They also mention the use of *qāɛid* and *qa* with a similar function in some varieties of Tunisian Arabic.

differentiate between the theoretically distinct categories. The fact that languages may distinguish less TMA values than theoretically possible does not invalidate the approach. The explicit recognition of different values in the model may stimulate more specific observations, eventually leading to more detailed grammars.

While the FG model turns out to be more precise than the descriptions in some cases, it appears not to be refined enough in others. An example is the special treatment of the experiential perfect in Najdi Arabic (section 5.5.3). I have indentified the experieral perfect as a special interpretation of Past Tense, but am unable to account for the preferred occurrence of this interpretation in the present. Some other phenomena are difficult to localize in the model. Consider for instance the special use of imperative forms for the expression of a rapid sequence of a number of events. Should it be represented as a special type of Exclamative or Narrative Illocution (π_4)? Is it the expression of a vivid Past Mood (π_3), or does it belong on the representational level as a purely temporal, 'sequencing' operator (π_2)?

The identification of the functions of a particular verb form, and the assignment of these functions to operators of different layers in the E-structure is far from being an automatic process. More attention should be paid to the operationalization of the FG model, by a further description of the semantic criteria and syntactic tests which can be used to determine which value a particular form expresses. Though not completely 'filled in' yet, the layered E-structure provides for a grid which allows for the insightful structuring of TMA phenomena. Within the layered E-structure, the main TMA values relevant for the description of Modern Standard Arabic and Egyptian Arabic are organized as in tables 16 and 17:[139]

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139. The influence of negation is not taken into account. Some TMA values may also be expressed by an Active Participle, depending on the Aktionsart of the SoA (see chapter 6).

Table 16. TMA values and their expression in MSA

Layer	TMA value	Verb form
π_1	Perfect Aspect	(*qad* +) suffix set
	Progressive Aspect	indicative prefix set
π_2	Habitual Aspect	indicative prefix set
	Past Tense	(*qad* +) suffix set
	Future Tense	(*sa-/sawfa* +) indicative prefix set
	Nonactual Mood	subjunctive prefix set
	Objective Possibility	*qad* + indicative prefix set
π_3	Past Mood	suffix set
	Factual Mood	suffix set
	Inferential Mood	*qad* + indicative prefix set
	Assertive Mood	*qad* + indicative prefix set
π_4	Exclamative Illocution	suffix set
	Directive Illocution	jussive prefix set/imperative form

Tables 16 and 17 show that most MSA and Egyptian Arabic verb forms may express several different TMA values. The classification of these values according to the layers in the FG model will be used for the description of verbal complexes in chapter 7. Verbal predicates which do not express any of the operator values in the table are inflected according to the *neutral* or unmarked verb form. For MSA this is the indicative prefix set; for Egyptian Arabic the prefix set without preverbal marker.[140] The neutral functions of these verb forms are left out of the table, as they are not positively indicated by an operator. The inflectional code of the neutral form is supposed to turn up by default in case a verbal predicate is not coded by any of the specified TMA values.

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140. The prefix set with the preverbal marker *bi-* sometimes functions as the neutral form as well (see Cuvalay 1991: 152-153).

Table 17. TMA values and their expression in Egyptian Arabic

Layer	TMA value	Verb form
π_1	Perfect Aspect	suffix set
	Progressive Aspect	*bi-* + prefix set
	Prospective Aspect	*ha-* + prefix set
π_2	Habitual Aspect	*bi-* + prefix set
	Past Tense	suffix set
	Future Tense	*ha-* + prefix set
	Nonactual Mood	prefix set
π_3	Past Mood	suffix set
	Factual Mood	suffix set
	Generic Mood	(*bi-* +) prefix set
	Inferential Mood	prefix set
	Assertive Mood	*ha-* + prefix set
π_4	Directive Illocution	prefix set/imperative form

5.6.2. The expression of Directive Illocution

Some of the implications associated with the FG model of layered clause structure seem to be contradicted by the form and functions of the special imperative form in Arabic. Hengeveld's first hypothesis (see section 2.3.1.2; Hengeveld 1989: 141) predicts that operator values of the lower layers will be expressed closer to the verb stem than those of higher layers. The fact that imperative forms, which supposedly express an illocutionary operator value of the π_4-layer, very often consist of a verb stem with only gender and/or number affixes is not compatible with this first hypothesis. No satisfactory explanation for this phenomenon has been offered so far.

The development of the imperative form into a marker of a rapid succession of events in a narrative context invalidates Hengeveld's second hypothesis, which predicts that operator values follow a diachronical development from inner to outer layers, rather than the reverse. In its asyndetic uses, this function of the imperative may still be characterized as a sort of Exclamative Illocution (represented by a π_4-operator), but in the

examples where the descriptive imperative is shown to be fully grammaticalized and integrated, as in example (33) in section 5.4.2, it must be represented by a π_2- or π_3-operator (see also section 5.6.1). Although Hengeveld's hypotheses are formulated in terms of tendencies rather than rules, these two observations regarding the imperative form suggest that this form may not be the direct expression of an illocutionary operator value. A similar conclusion follows from my analysis of the *kunt iemil*-construction, which will be described in chapter 7.

The imperative form could be represented alternatively as the expression of a π_1-operator with the value (immediate) Prospective Aspect. The combination of this value with the π_4-value Directive Illocution would then account for the use of the imperative form. A more drastic approach, but convenient in the case of Arabic, is the abandonment of a special Directive Illocution in favour of a more important role for deontic modality in the model. Imperative forms are then triggered by a combination of Prospective Aspect and Deontic Mood with a 2nd person as target. The theoretical implications of such an alternative approach must be left for future consideration.

6. The Active Participle

6.0. Introduction

The Arabic verb is associated with two participle forms, which are usually characterized as *active* and *passive*. The *Active Participle* (henceforth AP) represents the role or quality of the first argument associated with the verb from which it is derived. Some CA/MSA examples are:

	katab$_V$	'to write'
>	*kātib*$_{N/A}$	'a writer, writing, having written'
	ṣaluh$_V$	'to be righteous, good'
>	*ṣāliḥ*$_{N/A}$	'(somebody who is) righteous, good'
	taɛallam$_V$	'to learn, study'
>	*mutaɛallim*$_{N/A}$	'(somebody who is) studying, educated'

The *Passive Participle* denotes the role or quality of the second argument. Some CA/MSA examples are:

	katab$_V$	'to write'
>	*maktūb*$_{N/A}$	'(something) written, a letter; foreordained, destined'
	istaxraj$_V$	'to extract'
>	*mustaxraj*$_{N/A}$	'(something which is) extracted, an extract'

Passive Participles are of minor importance for the description of verbal expression in Arabic, and will therefore not be considered further here. APs fulfill verb-like functions, especially in the MA dialects, and they are considered to be integrated in the verbal system. The morphological, syntactic, and semantic characteristics of the AP will be introduced in section 6.1. Section 6.2 relates the various verbal functions of the AP to the FG typology of SoAs. Some Arabic verb classifications will be described and evaluated. Section 6.3 describes exceptional uses of the AP in two MA dialects.

Section 6.4 integrates the general findings and discusses their treatment in FG.

6.1.   Form and functions

6.1.1. *Morphological and syntactic characteristics*

AP-forms are completely regular. Table 18 presents the AP-forms associated with the ten most common CA/MSA verbal patterns. MA dialects have APs with similar patterns.[141]

Table 18. Active Participles in CA/MSA

Pattern	Suffix set verb stem	Active Participle
I	*faɛal/faɛil/faɛul*	*fāɛil*
II	*faɛɛal*	*mufaɛɛil*
III	*fāɛal*	*mufāɛil*
IV	*'afɛal*	*mufɛil*
V	*tafaɛɛal*	*mutafaɛɛil*
VI	*tafāɛal*	*mutafāɛil*
VII	*infaɛal*	*munfaɛil*
VIII	*iftaɛal*	*muftaɛil*
IX	*ifɛall*	*mufɛall*
X	*istafɛal*	*mustafɛil*

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141. APs in MA dialects may have forms such as the pattern II AP *mfeɛɛel* and the pattern X AP *mestafɛel*, due to a reduced pronunciation of short vowels. Pattern I verbs of the fiɛil-type have an alternative AP-pattern (faɛlān) in some MA dialects.

APs can be used as substantive nouns (1a) or adjectives (1b). Just as other nouns and adjectives, the AP agrees with its referent in gender and number, and may be preceded by the definite article. In CA and MSA, different endings indicate the nominative, accusative or genitive case, in addition to (in)definiteness.[142]

Modern Standard Arabic
(1) a. *al-   kātib-   u   l-   mašhūr-   u*
      the-   write.AP:M.SG- NOM   the-   famous-   NOM
      'the famous writer'   (d1x_i: *kātib*$_N$ (x_i)$_\theta$: *mašhūr*$_A$ (x_i)$_\theta$)
   b. *al-   walad- u   l-   kātib-   u*
      the-   boy-   NOM   the-   write.AP:M.SG-   NOM
      'the writing boy'   (d1x_i: *walad*$_N$ (x_i)$_\theta$: *kātib*$_A$ (x_i)$_\theta$)

In (1a), the AP-form *kātib*$_N$ is used as the first restrictor in a term.[143] In (1b), the same AP is used attributively, and functions as a second restrictor. In all varieties of Arabic, nouns and adjectives may occur in predicative position without additional marking. Indefinite APs in predicative position may be treated as syntactically verbal. In CA/MSA, this verb-like use of the AP can be deduced from its ability to take a second argument in the accusative case (which indicates the Goal-function), as in the following example:[144]

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142. The nominative case marks the first argument and the nominal or adjectival predicate in phrases without a copular verb. The accusative case marks second arguments with Goal-function, nominal and adjectival predicates in phrases with a copular verb, and the adverbial use of nominal forms. The genitive case is used for nouns in prepositional phrases and for the second term in the construct state.

143. In their nominal use, APs often have a specific meaning which cannot be completely predicted from the meaning of the verb. For this reason, I assume that substantive APs have independent entries in the mental lexicon, while the attributive use is regularly derived through recurrent predicate formation. Both the substantive and the verb-like uses of the AP are considered to have originated from its functions as an adjective.

144. A nominal status of the AP *sāmiɛūna* in (1) would require the marking of genitive case (by *-i-*) on the term *surāx*, while the AP itself would have the reduced plural affix associated with the construct state (*sāmiɛū*).

Modern Standard Arabic (Cantarino 1975: 412)
(2) *fa-   hal   'antum   sāmiɛūna   ṣurāx-   a-   nā?*
    and- INT you.M.PL listen.AP:M.PL cries-   ACC-   our
    'Will you listen to our cries?'

The MA dialects do not have case marking. The Egyptian Arabic sentence *huwwa kātib ig-gawāb* can be interpreted as 'he is the writer of the letter' or 'he has written the letter' (Mitchell 1956: 104). In MA dialects, the nominal or verbal character of the AP in this type of construction appears in a limited number of circumstances:

(i)   It can be deduced from the form of the first person singular pronominal suffix, which is *-i* in the possessive construction (3a), and *-ni* when it indicates the second argument of a verbal predicate (3b):[145]

       Syrian Arabic (Cowell 1964: 265)
(3) a. *huwwe   mɛállm-   i*
       he   teach.AP.M.SG-   mine
       'He's my teacher.'
       $\{(d1x_i: meallem_N (x_i): \{(d1x_j: [+Sp,-Ad](x_j))_{Poss}\} (x_i)))\} (d1x_k: [-Sp,-Ad](x_k))_\theta$

    b. *huwwe   mɛallém-   ni*
       he   teach.AP.M.SG-   me
       'He's taught me.'
       π_1: PERFECT $eallam_V (d1x_i: [-Sp,-Ad](x_i))_{Ag} (d1x_j: [+Sp,-Ad](x_j))_{Go}$

       This distinction between two types of pronominal suffixes applies only to the first person singular. The other pronominal suffixes have one form, which may indicate a possessor or the second argument. The form *mɛallm-o*, for example, can be interpreted as either 'his teacher' or 'he's taught him' (Cowell 1964: 265).

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145. In examples (3) and (5) from Syrian Arabic, the difference between the verbal and nominal use of the AP leads to a realization of the prefinal stress on its first syllable in the a-sentences, and on its second in the b-sentences. In these examples, the stress is indicated by a diacritic (*á* or *é*).

(ii) The distinction between a verbal and nominal use of the AP can be observed in most MA dialects in the presence or absence of the pronunciation of the feminine suffix *-t*. The *-t* is pronounced in the construct state in (4a), but not in the structure with a verbal predicate and a second argument in (4b):

Syrian Arabic (Holes 1995: 126)
(4) a. *hiya   kātbit   ha- l-   maktūb*
       she   write.AP:F.SG   this- the- letter
       'She is the writer of this letter.'
    b. *hiya   kātbi   ha- l-   maktub*
       she   write.AP:F.SG   this- the- letter
       'She has written this letter.'

(iii) The verbal quality of APs in MA dialects can also be confirmed by the possibility to use the prepositional suffix *-l-* 'to, for' in combination with a pronominal suffix. The suffixed form of the preposition is used with verbal predicates, while nominal predicates must be combined with the disjunct form *'el-*. This leads to oppositions like the following from Syrian Arabic (5):

Syrian Arabic (Cowell 1964: 265)
(5) a. *huwwe   mtáržem   'el- i*
       he   translate.AP:M.SG   for- me
       'He is a translator for me.'
    b. *huwwe   mtaržém-   l-   i*
       he   translate.AP:M.SG-   for- me
       'He has translated for me.'

(iv) Specifically verbal types of negation do occur with APs in some MA dialects, and the word order in AP-phrases may show verbal characteristics as well.

In most of its occurrences, the verbal or nominal character of the AP must be deduced from the context. The following discussion of the functions of the AP will concentrate on its verbal uses.

6.1.2. The aspectual interpretation of APs in Classical Arabic

Depending on the context and the Aktionsart of the SoA, the Classical Arabic AP may indicate Prospective (6a), Progressive (6b), and Perfect (6c) Aspect:

Classical Arabic (Fischer 1972b: 99-100)
(6) a. *anā   rāǧiε-   un   'ilay-   him*
       I   return.AP:M.SG-   NOM   towards-   them
       'I am about to return to them.'
    b. *ra'ā-   hu   bākiy-   an*
       <u>see</u>:3.M.SG- him   cry.AP:M.SG-   ACC
       'I saw him crying.'
    c. *...fa-   'idā   huwa   qā'im-   un   yuṣallī*
          and- there he   rise.AP:M.SG-   NOM   pray:IND.3.M.SG
       '...and there he was already up and praying.'

The CA AP may also refer to a state which is not related to an anterior, simultaneous, or posterior event:

Kinberg (1992: 307; Koran 6: 37)
(7) *inna   l-   lāha qādir-   un   εalā 'an*
    certainly   DEF-   God   be able.AP:M.SG-   NOM   to   that
    yunazzila   'āyat-   an
    send down:SUBJ.3.M.SG   sign-   ACC
    'Surely God is able to send down a Sign.'

The CA AP often induces a connotation of certainty, especially with reference to the future, and it occurs frequently after the preverbal emphatic marker *la-*:

Classical Arabic (Koran 37: 31)
(8) *in-   nā   la-   dā' iq-   ūna*
    certainly- we   EMP-   taste:AP- M.PL.NOM
    'We are certainly going to experience (the painful chastisement).'

The AP does not have a definite aspectual value in CA, and its interpretation depends on the Aktionsart of the SoA as well as the context (Kinberg 1992). The use of the AP in MSA is similar to that in CA. A classifi-

cation of MSA verbs according to the most typical aspectual interpretation of their APs will be discussed in the following section. In both CA and MSA, verbal uses of the AP are quite rare, and APs in predicative position can almost always be analyzed as nouns or adjectives.[146] The situation is different in most MA dialects, where the use of the AP is far more frequent and completely integrated in the verbal system. As will be illustrated in the following section, the aspectual interpretation of APs is more fixed and closely connected to the meaning of the verb in MA than in CA and MSA.

6.2. The functions of the AP and the classification of SoAs

6.2.1. Introduction

The aspectual interpretation of APs is related to the Aktionsart of the SoAs they describe. Descriptions of the functions of APs in MA dialects usually account for the various functions of the AP by referring to different verb classes. The relevance of these verb classes for the interpretation of the suffix set, the prefix set, and the prefix sets with verbal markers is taken into account as well, to indicate where the use of the AP contrasts with the functions of these other verb forms. The necessity of integrating contextual information (such as the specificity and number of arguments, for instance) has been recognized in some studies, but most classifications are based on isolated verbs.[147] Although the Aktionsart of a SoA is indeed partly determined by the inherent aspectuality of the verb, a classification based on the verbal meaning alone cannot fully account for all possible uses of the APs of a verb class. I therefore consider a classification of SoAs to be more appropriate than a classification of verbs.

In this section, some of the more detailed verb classifications in MA dialects and a classification of MSA verbs will be related to the FG SoA-features. Of the SoA-features, I only use those three which are relevant for

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146. AP-forms are frequently used in less elevated forms of MSA (journalistic style), supposedly due to the interference of the colloquial usage of the AP (Woidich; personal communication).

147. Mitchell (1978: 237) and Mitchell and Al-Hassan (1994: Chapter 3), for instance, point at the importance of other features of the linguistic context, in addition to the inherent aspectuality of the verb, for the interpretation of MA verb forms.

the Aktionsart, namely ± dynamic [± dyn], ± telic [± tel], and ± momen-
taneous [± mom]. Their definitions have been introduced in section 4.2.1,
but will be repeated in section 6.2.2.1, where I will also provide a more
extensive description of the criteria and tests which can be used to deter-
mine which features apply to a particular SoA. The three SoA-features will
be used to define four SoA-types in section 6.2.2.2. Section 6.2.2.3 dis-
cusses the relevance of a fifth *Inceptive* SoA-type. Section 6.2.2.4 pays
attention to the terminology used to refer to (i) qualities of verb, (ii) features
of SoAs, and (iii) types of SoAs. The different SoA-types will be discussed
one-by-one in sections 6.2.3 to 6.2.7.

6.2.2. The typology of SoAs

6.2.2.1.   SoA-features

[- dyn] SoAs do not involve any change. They are presented as being or
remaining the same at all points of the time interval during which the SoA
obtains. The following examples express [- dyn] SoAs (Dik 1989a: 91):

(9)   a. *The substance was red.*
        b. *John was sitting in his father's chair.*

[+ dyn] SoAs are characterized by some kind of internal dynamism. Dik
(1989a: 91) gives the following examples of [+ dyn] SoAs:

(10)   a. *The clock was ticking.*
        b. *The substance reddened.*
        c. *John opened the door.*

A distinction between [- dyn] and [+ dyn] SoAs is that only [+ dyn] SoAs
may be combined with adverbials such as *quickly* or *slowly* which qualify
the dynamicity of the SoA in terms of (relative) speed.
    [+ dyn] SoAs can be [+ tel] or [- tel]. [+ tel] SoAs are characterized by
a development which, if fully achieved, reaches a terminal point. The dis-
tinction between [+ tel] and [- tel] SoAs can be illustrated in several ways
(Dik 1989a: 92-93):

(i)   [- tel] SoAs can be combined with adverbials such as *for an hour* and *briefly* which indicate the duration of an activity, while [+ tel] SoAs can only be combined with duration adverbials similar to *in an hour*. [+ tel] SoAs may be embedded under expressions such as *It took x three hours/a year to.....* We can thus distinguish between the [- tel] SoAs expressed in (11a) and (11b) and the [+ tel] SoAs in (11c) and (11d):

(11) a. *John painted for an hour (*in an hour).*
      b. **It took John three hours to paint.*

      c. *John painted the portrait in an hour (*for an hour).*
      d. *It took John three hours to paint a portrait.*

(ii)   [- tel] SoAs which are combined with an adverbial such as *almost* can only be understood as not having occurred at all (12a), whereas a combination of *almost* with [+ tel] SoAs may also have the interpretation that the SoA did occur, but that it was interrupted just before its terminal point (12b):

(12) a. *John almost ran in the forest.*
      b. *John almost ran the marathon.*

(iii) [- tel] SoAs are considered to have occurred if they obtained at some point in time, while [+ tel] SoAs are not considered to have occurred if they obtained at some point in time, but got interrupted before they were fully accomplished. From the statement *John was painting yesterday* we may safely infer that the statement *John painted yesterday* is currently valid. The validity of the statement *John was painting a portrait yesterday*, however, does not entail that the statement *John painted a portrait yesterday* must be true today, for the [+ tel] SoA described in the statement may have been interrupted. Dik (1989a: 94) illustrates this distinction with the following examples depicting a [- tel] (13a) and [+tel] (13b) SoA:

(13) a. *John was walking in the park yesterday.*
         Therefore, he has walked in the park.
      b. *John was walking to the station yesterday.*
         *Therefore, he has walked to the station.

[+ tel] SoAs can be [+ mom] or [- mom]. [+ mom] SoAs are depicted as if their initiation coincides with their terminal point. They can not be described as consisting of different phases, and statements which express a [+ mom] SoA do not combine with verbs such as *to begin*, *to continue*, and *to finish*:

(14)   a. *John painted the portrait.*   [- mom]
          John started/continued/finished painting the portrait.

       b. *John reached the summit.*   [+ mom]
          *John started/continued/finished reaching the summit.

6.2.2.2.   SoA-types

The three SoA-features [± dyn], [± tel], and [± mom] are interrelated. [- dyn] implies [- tel] and [- mom]. [+ tel] implies [+ dyn], and [+ mom] implies [+ tel] and [+ dyn]. This means that the three distinguishing features together define four SoA-types, which I will call *Static, Dynamic, Telic*, and *Momentaneous*, according to their most characteristic feature. The four SoA-types are represented in table 19.

Table 19. The classification of SoA-types in terms of their Aktionsart

SoA-type	Feature		
	dyn	tel	mom
Static	-	-	-
Dynamic	+	-	-
Telic	+	+	-
Momentaneous	+	+	+

The names of the SoA-types (with an upper case first letter) must not be confused with the names of the SoA-features (with a lower case letter, usually represented as [± ...]). Telic and Momentaneous SoAs, for instance,

are both [+ dyn], but they are not classified as Dynamic, as dynamicity is not their *most characteristic* feature.

6.2.2.3. Inceptive SoAs?

The FG classification of SoA-types presented in table 19 recognizes only four relevant classes. Two other classifications, both based on typological studies of the interaction between Aktionsart and Aspect, distinguish four similar types (represented in table 20), but also a fifth one, which may be called *Inceptive*. These classifications, by Breu (1994) and Johanson (1995), will be compared to the FG approach.

Breu (1994) pictures the different SoA-types on a scale with an increasing degree of dynamicity, going from the Totally Static SoA, which has no initial nor a terminal boundary, to the Totally Terminative SoA, for which the initial and terminal boundary coincide. Breu's Inceptively Static type has an initial boundary only, and depicts the inception of a state. His Activity has an initial and a terminal boundary, and the Gradually Terminative type is characterized by its final boundary.

Johanson (1995) identifies the same five types as Breu (although with different names) and calls the Inceptive type Initiotransformative, thus grouping it with the Transformative types. The different positions which Breu and Johanson assign to the Inceptive SoA-type are reflected in table 20.

Table 20. The SoA-types according to Dik, Breu and Johanson

Dik (1989a)	Breu (1994)	Johanson (1995)
Static	Totally Static	Nontransformative [- dyn]
	Inceptively Static	
Dynamic	Activity	Nontransformative [+ dyn]
		Initiotransformative
Telic	Gradually Terminative	Finitransformative [- mom]
Momentaneous	Totally Terminative	Finitransformative [+ mom]

Both Breu (1994) and Johanson (1995) describe the Inceptive type as referring to the inception of Static SoAs only, and not to the inception of Dynamic SoAs. The distinction of a special class for Inceptive SoAs is based on their heterogeneous Aktionsart, which is partly [+ mom] according to their inceptive nature, and partly [- dyn] according to their static nature (Johanson 1995: 236). Breu (1994: 28) mentions examples of the verb 'to know' in Russian (*uznat/ znat*), Italian (*seppe/sapeva*), French (*sut/savait*), and Spanish (*supo/sabía*), which refer to Momentaneous SoAs in their perfective reading, and to Static SoAs in their imperfective reading. Johanson (1995: 236) mentions verbs with the meaning 'to sit down + sit' in Persian and Turkish, but analyzes the Russian pair *sest* 'to sit down' and *sidet* 'to sit' as different verbs. Dik (1989a: 189) explains the aspectual phenomena associated with this type of SoAs as follows:

(i)   A Static SoA refers to the inception of the state in combination with Perfective Aspect.

(ii) A Momentaneous SoA which represents the inception into a particular state, expresses this state as the result of the inception in combination with Perfect Aspect.

States may thus be described by Static as well as Momentaneous SoAs, and the alternation between static and inceptive readings of these SoAs follows from the interaction of their Aktionsart and aspectual value, as represented by a π_1-operator. According to Dik (1989a: 189), there is no need to account for these alternative interpretations by the recognition of a special Inceptive SoA-type.

The question as to whether or not a special Inceptive SoA-class is necessary, is particularly relevant for the description of Arabic since many Arabic verbs seem to have the double Aktionsart which Breu and Johanson describe as characteristic of the Inceptive SoA-type. I will therefore evaluate whether the SoAs denoted by Arabic verbs can all be described as either Static or Momentaneous, or whether a special Inceptive SoA-type should be introduced.

6.2.2.4. The classification of verbs

The four SoA-types (Static, Dynamic, Telic and Momentaneous) will be used for the interpretation of Arabic verb classifications. These classifications are often based on the inherent aspectuality of verbs. Eisele (1990b) uses the features [± stative], [± momentaneous], [± inchoative] and [± interval] to define six Egyptian Arabic verb classes, most of which he further subdivides into *core* and *borderline* groups. Cowell (1964) recognizes Syrian Arabic verbs with *punctual, developmental, durative*, and *inceptive* aspect. McCarus (1976) distinguishes *states, activities, acts* and *inchoatives* as relevant MSA verb classes, the latter subdivided according to the *developmental, inceptive*, or *movement* character of the verb.

Some classifications are not directly related to the inherent aspectuality of the verb. Ahmed Ali and Miller (1986), Simeone-Senelle et al. (1986), and Caubet (1986; 1993a) have numbered classes for Sudanese, Tunisian, and Moroccan Arabic respectively. The (sub-)groups of verbs in these classes are described in terms of semantic characteristics such as *transitive, movement*, and *perception*. It is beyond the scope of this investigation to review all the different classifications in detail, but I assume that general semantic traits often correspond to inherent aspectual features; for example, that transitive verbs usually refer to Telic SoAs, or that perception verbs usually refer to Static or Momentaneous SoAs (depending on whether they refer to a state or to the inception of a state).

As explained in section 3.1.3, the semantic characteristics of a verb do not completely determine the Aktionsart of the SoAs to which they may refer. Ω-operators of the main arguments and certain types of σ_1-satellites affect the Aktionsart too, and a classification of verbs in terms of their inherent meaning overlaps only partly with a classification of the SoAs to which they may refer. I will therefore distinguish between terms for inherent aspectual properties of verbs, and terms and features for the description of SoAs. The terms and features to be used for SoAs are defined above. Verbs which are used to refer to Static SoAs will be called *state verbs*. Verbs which primarily describe Dynamic SoAs are called *activity verbs*. *Developmental* verbs usually correspond to Telic SoAs, and *punctual* verbs are associated with Momentaneous SoAs.

Again, I want to stress that the partial association of verbs of a certain class with a particular type of SoAs should not be regarded as a one-to-one relationship. An activity verb such as $walk_V$ $(x_1)_{Ag}$, for instance, refers to a Dynamic SoA when combined with a prepositional phrase such as *in the*

park in (13a). With a prepositional phrase like *to the station* (as in (13b)), the same activity verb expresses a Telic SoA.

The transitive developmental verb *paint*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ refers to a Telic SoA in (11c), but expresses a Dynamic SoA when the second argument *a portrait* is replaced by the plural *portraits*. These examples show that verbs may be classified on the basis of their prototypical use, but that this classification only partially predicts the type of SoA to which a given verb may refer.

The following analysis of the verbal functions of the AP is organized such that each SoA-type is treated in a separate section. The sections start with the relevant data from Egyptian Arabic, largely based on the work of Eisele (1992b), who provides a detailed and insightful classification of verbs. Other MA descriptions of the interaction of verbal meaning and verb forms are included too, of which Cowell's treatment of Syrian Arabic (Cowell 1964: Chapter 10) and Caubet's classification of Moroccan verbs (Caubet 1986; 1993a: 221-230) are the most extensive. The results of McCarus's investigation of MSA verbs (McCarus 1976) will be quoted at the end of each section.

6.2.3. Static SoAs

Truly Static SoAs tend to be described by nonverbal predicates in all varieties of Arabic. Many verbs which are often interpreted as referring to a state, such as CA/MSA *qaɛad*$_V$ 'to sit', refer in fact to the state's inception, in the case of *qaɛad*$_V$, 'to sit down, take a seat'. Within FG, SoAs denoted by inceptive verbs are considered to be Momentaneous (see section 6.2.5).

An example of a state verb is *šabah*$_V$ 'to resemble' in Cairene Arabic. It is used in the bare prefix set to indicate a present state, as in:

Egyptian Arabic (Hinds and Badawi 1986: 451)
(15) *iṣ-   ṣūra   ma-   tišbih-   nī-   š*
      the- photo   NEG-   resemble:3.F.SG- me-   NEG
      'The photo doesn't resemble me.'

According to Hinds and Badawi (1986: 451) this verb does not occur in the suffix set, the prefix set with the preverbal progressive/habitual marker *bi-* or the preverbal prospective/future/assertive marker *ḥa-*, and the imperative

form. This confirms the lack of association with either dynamism or change of state, a characteristic of true state verbs.

Eisele (1990b: 199) mentions a class of Cairene Arabic verbs which ambiguously have both state and punctual meanings. This class involves verbs like *εirif*$_V$ 'to know', *fihim*$_V$ 'to understand', and *iftakar*$_V$ 'to think'. The prefix set (and increasingly also the prefix set with *bi-*) of this class of verbs indicates a state (16), while the suffix set may indicate a past change in state (17a) or a past state (17b).[148]

Egyptian Arabic (Hinds and Badawi 1986: 187)
(16) *b-*   *aḥibb*   *il-* *bint*^{i} *di*
      IND-   love:1.SG the-   girl   that
      'I love that girl.'

Cairene Arabic (Eisele 1990b: 200-201)
(17) a. *ḥabbit-*   *ha*   *'awwil- ma*   *šuft-*   *aha*
         <u>love</u>:1.SG-   her   first-   that   <u>see</u>:1.SG- her
         'I loved (fell in love with) her the moment I saw her.'
      b. *ḥabbēt*   *inn- u*   *geh*
         <u>love</u>:1.M.SG   that he   <u>come</u>:3.M.SG
         'I liked the fact that he came.'

The ambiguity of the suffix form of the verb *ḥabb*$_V$ in (17a) and (17b) indicates that the meaning of the lexical verb itself must account for the two possible interpretations. Eisele (1990b: 200) therefore concludes that two polysemous verbs *ḥabb*$_V$ coexist, one with the meaning of 'to fall in love, start to like', and the other with the meaning of 'to love, like'. I agree with Eisele's solution, which is compatible with the FG approach in that it assumes that there is a state verb *ḥabb*$_V$, which is primarily used to express Static SoAs, and a punctual verb *ḥabb*$_V$, which typically refers to Momentaneous SoAs. In the same way, there is a state verb *iftakar*$_V$ 'to think' and a punctual verb *iftakar*$_V$ 'to remember', and so on.

In Egyptian Arabic, state verbs express the current involvement in a state with the prefix set, or the prefix set with *bi-*. The APs of these verbs are rarely used with this function. For the state verbs which have homo-

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148. The gradual expansion of the functions of the prefix set with *bi-* in Cairene Arabic is described by Cuvalay (1991).

phonous punctual verbs with inceptive meaning, the AP of this punctual verb may be used with resultant state meaning.

Caubet (1986; 1993a) does not mention state verbs as a separate class for Moroccan verbs. Some verbs which typically refer to Static SoAs, such as *šbeh*ᵥ 'to resemble' and *bān*ᵥ 'to appear, look like, seem' are classified together with activity verbs of which the APs refer to the current involvement in a state or activity only. In general, the APs of true state verbs are either not used at all, or refer to the current involvement in a state only. Special progressive verb forms (such as the Tunisian Arabic [*gāɛad* + prefix set] in the region of Sfax (Simeone-Senelle et al. 1986)) do not occur with state verbs.

McCarus (1976:15-16) mentions a verb class of MSA state verbs, which is further subdivided in groups of *state*, *stative*, and *impersonal* verbs. Some verbs in the first subclass, such as *ɛaraf* 'to know, come to know, learn' do not always refer to Static SoAs, and may be analyzed as polysemous following Eisele's classification of this group in Cairene Arabic. The verbs in the other two groups seem to refer to Static SoAs only. Some examples are *wasuɛ*ᵥ 'to be spacious', and *wajab*ᵥ 'to be necessary'. APs of MSA state verbs do not exist, or resemble adjectives in their meaning. The prefix sets of these verbs cannot have progressive or habitual meaning (McCarus 1976: 16).

6.2.4. Dynamic SoAs

The class of Dynamic SoAs comprises activities which involve internal dynamism without telicity. They are not characterized by some sort of gradual change which, if continued, inevitably reaches a natural endpoint. Examples of Egyptian Arabic verbs which are used prototypically to depict Dynamic SoAs are *liɛib*ᵥ 'to play', *kallim*ᵥ 'to speak to, address', *istaɛbat*ᵥ 'to act like an idiot', and *istaɛmil*ᵥ 'to use'.

With these verbs, the prefix set with *bi-* may express Progressive (18a) as well as Habitual (18b) Aspect:

Egyptian Arabic (Hinds and Badawi 1986: 790)

(18) a. *'il-   ɛiyāl   bi-   yilɛabu   fi-   g-   ginēna*
the-   children PROG-   play:3.PL in-   the- garden
'The children are playing in the garden.'

b. *xud*   *bāl-*   *ak*   *mi-*   *l-*   *faras*   -
take:IMP.M.SG   mind-   your   from-   the-   horse
bi-   *yilɛab*   *kitīr*
HAB-   play:3.M.SG   a lot
'Watch out for the horse - it's very frisky.'

APs are rarely used to express Dynamic SoAs, but if they are, they depict the concurrent involvement in the SoA. None of Eisele's classes consist of activity verbs. The verb *istaɛbaṭ*ᵥ 'to act like an idiot' is classified in the subgroup of *agentive statives*. Other verbs such as *diḥik*ᵥ 'to laugh', *zākir*ᵥ 'to study', and *ɛām*ᵥ 'to swim' which, according to their meaning, would be expected to typically refer to Dynamic SoAs, are identified as *non-inchoative change of state interval verbs*, together with verbs such as *dammar*ᵥ 'to destroy', *'atal*ᵥ 'to kill', and *xallaṣ*ᵥ 'to finish', which seem to indicate Telic SoAs. The verbs in this noninchoative change of state interval group have APs which express Perfect Aspect or Past Tense, while their prefix forms with *bi-* indicate Progressive Aspect (Eisele 1990b: 221).

Cowell's class of Syrian Arabic *durative* verbs consists partly of verbs which primarily denote Static SoAs, and partly of verbs which usually refer to Dynamic SoAs. Their APs refer to a concurrent state or activity (Cowell 1964: 269). An example with an AP of the activity type is:

Syrian Arabic (Cowell 1964: 270)
(19) *rākde*   *wara*   *t-*   *teslāye*   *bass*
run.AP:F.SG   after   the-   amusement   only
'She's only out for a good time (lit. "running after amusement").'

Cowell explains the concurrent meaning of this type of APs as the consequent state of the involvement in a Static or Dynamic SoA.

APs of Dynamic SoAs may also have a modal value, used for special emphasis (20a) or reference to a SoA which is definitely scheduled (20b):

Moroccan Arabic (Caubet 1993a: 233)
(20)   a. A.   *fūqāš*   *ǧādi*   *tzerɛu?*
           when   FUT   sow:2.PL
           'When are you going to sow?'
      B.   *ḥna zāɛrīn,*   *ā*   *ṣāḥb-*   *i!*
           we   sow.AP:PL   VOC   friend-   my
           'We've sowed already a long time ago, my friend!'

b. *ḥna   zāerīn   ǧedda,   w-   entūma?*
   we   sow.AP:PL   tomorrow   and- you.PL
   'We are sowing tomorrow, and what about you?'

This modal use of APs is entirely free with respect to aspectual and temporal values, which must be inferred from the context.[149]
   In view of the fact that activity verbs may express Dynamic and Telic SoAs, the meaning of their APs is not entirely predictable. With Dynamic SoAs, the AP expresses the current involvement in an activity, with Telic SoAs the AP may also refer to the resultant state. This explains why activity verbs do not often show up as a separate group in classifications of MA verbs, which are based on all possible uses of a verb. Some examples of MSA activity verbs are *šaġal*$_V$ 'to occupy', *intaẓar*$_V$ 'to wait for', and *istaemal*$_V$ 'to use'. According to McCarus (1976: 23), both the prefix set and AP of these verbs have progressive meaning.

6.2.5. Telic SoAs

Telic SoAs are characterized by a gradual development towards a terminal point. The internal structure of these SoAs is such that a beginning, middle, and final stage may be recognized. This contrasts with the Dynamic SoAs, which are presented as essentially homogeneous during the different phases of their realization. Prototypical Egyptian Arabic examples of verbs used for the description of Telic SoAs are *katab*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to write something', *ḥafar*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to dig something up', *rattib*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to put something in order', *bayyad*$_V$ $(x_1)_{Ag}$ $(x_2)_{Go}$ 'to paint something'. These transitive developmental verbs refer to Dynamic SoAs if they have an indefinite plural second argument. They often have homophonous intransitive counterparts, which express Dynamic SoAs as well (for instance *katab*$_V$ $(x_1)_{Ag}$ 'to write', *ḥafar*$_V$ $(x_1)_{Ag}$ 'to dig'. For this reason, developmental verbs are found in different classes, just as the activity verbs mentioned in section 6.2.4.
   With Telic SoAs, the AP expresses Perfect Aspect, as in (21):

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149. The modal use of the AP has been described by Denz (1971: 115), Woidich (1975: 284-290), and Caubet (1991: 221-222).

Egyptian Arabic (Mitchell and El-Hassan 1994: 79)
(21) *'ana mrattib*   *il- hudūm*
      I   tidy.AP:M.SG the- clothes
      'I've tidied up the clothes.'

The suffix set is used with the same function too, but as Perfect Aspect is just one of the meanings of the suffix set, the AP will be used to unambiguously indicate the perfect meaning of a resultant state which is still valid (at the moment of speech or a reference point).[150] The sentence in (21) thus implies that the clothes are still tidy, whereas the statement in (22) can be used after someone put them back in a disorderly state as well.

(22) *rattibt*   *il- hudūm*
      <u>tidy</u>:1.SG   the- clothes
      'I have tidied up the clothes.' or 'I tidied up the clothes.'

The association of the AP of Telic SoAs with Perfect Aspect may be absent in a strongly asserted statement:

Cairene Arabic (Woidich 1975: 284)
(23) *wallāhi la-*   *na mlammaɛ*   *maktab- ak!*
      by God EMP- I   polish.AP:M.SG desk-   your
      'By God, I will make your desk shine!'

Cowell (1964: 269) mentions a class of Syrian Arabic developmental verbs which includes punctual verbs as well. The APs of these verbs all depict a *subsequent* (= resultant) state, which Cowell subsumes under the general consequent state meaning of the AP. Ahmed Ali and Miller (1986) have a special class for Sudanese Arabic *external transitive verbs* (which mainly affect the second argument). The APs of these verbs express Perfect Aspect.

    McCarus (1976: 19) recognizes a class of MSA act verbs which primarily denote Telic SoAs. The class is subdivided into acts such as *daras*$_V$ 'to study' and *šarib*$_V$ 'to drink', and inchoatives, such as *ihmarr*$_V$ 'to become

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150. The Jordanian Arabic distribution of meaning between the AP and the suffix set is different from the one described here and will be discussed in section 6.3.2.

red' and *tahajjar*_V 'to turn to stone'. The APs of the verbs in this class express Perfect Aspect.

6.2.6. Momentaneous SoAs

Momentaneous SoAs are characterized by an abrupt change, which is regarded as punctual. Prototypical examples of Egyptian Arabic verbs associated with this class of SoAs are *wiṣil*_V 'to arrive', *iktašaf*_V 'to discover', *nisi* 'to forget', and *infagar*_V 'to explode'. These verbs do not normally occur in the prefix set with *bi-* to indicate Progressive Aspect, and their APs express Perfect Aspect.[151]

Cowell (1964: 269-275) puts Syrian Arabic punctual verbs together with developmental verbs in one class. He does recognize special groups of inceptive and *translocative* (= movement) verbs, which are here both regarded as belonging to the inceptive subclass of punctual verbs. The verbs in this subclass refer to the inception of a state, or to the onset of an activity. The SoAs prototypically described by Egyptian Arabic verbs like *nām*_V 'to fall asleep', *sāfir*_V 'to go on a journey', *rāḥ*_V 'to go (to set out)' and *wi'if*_V 'to stop, stand up' will be classified as Momentaneous, regardless of the Static or Dynamic SoAs which set in as the necessary result of their occurrence.

Inceptive Momentaneous SoAs distinguish themselves by their APs, which seem to express Progressive rather than Perfect Aspect. With respect to the inception of the SoA, the occurrence of the SoA should be seen as a resultant state, however, and just as other punctual verbs, inceptive verbs thus have APs which express Perfect Aspect. An example with an AP of an inceptive verb is:

Cairene Arabic (Woidich 1975: 277)

(24) a. *ana*   *šāɛir*   *bi-*   *farāġ*   *li-*
      I   feel[152].AP:M.SG   with-   emptiness   because of

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151. With a plural first argument and a special context, a marker for Progressive Aspect may be used to indicate a quick succession of inherently momentaneous SoAs, as in *The guests were arriving*.

152. The verb *šaɛar*_V means in fact something like 'come to perceive a sensation'. I have not always translated the inherent aspectual meaning in the glosses.

> ġyāb   ḥamdi
> absence   Hamdi
> 'I (have started to) feel an emptiness because of Hamdi's absence.'
> b. ana   ṛāyiḥ   il-   madrasa
>   I   set out.AP:M.SG   the- school
>   'I am on my way to school.'

The APs of inceptive movement verbs like *rāḥ*$_V$ 'to go' and *mišī*$_V$ 'to walk', and APs of other inceptive verbs which refer to some sort of scheduled SoA, such as *ṣām*$_V$ 'to fast', may be used to express Prospective Aspect or Future Tense. An example is:

> Cairene Arabic (Woidich 1975: 283)
> (25) *huwwa*   *ṭāliɛ*   *baɛd* [i]   *šwayya*
>   he   come forth.AP:M.SG   after   little
>   'He'll be coming out soon.'

The possible Prospective or Future value of the AP of certain verbs seems to be related to the predictability of the SoA in terms of intent, scheduled occurrence, or some other element. I consider this function to be related to the generally attested modal value of the AP, which may overrule its aspectual interpretation. In a strongly asserted statement, the AP may also be used with past time reference, as in the following example:

> Cairene Arabic (Woidich 1975: 289)
> (26) *iḥna*   *mitfahmīn*   *ɛala kull* [i]   *ḥāga*   *lelt*   *imbāriḥ!*
>   we   agree.AP:PL   on   all   thing   night   yesterday
>   'We agreed on everything yesterday evening!'

McCarus (1976: 20) distinguishes a class of MSA *inchoative* verbs, all used to denote Momentaneous SoAs. They cannot express Progressive Aspect with the prefix set, and are subdivided into three subclasses according to the meaning of the AP. The verbs in the first subclass describe the inception into a state, and their APs indicate Perfect Aspect. Some examples are *sakir*$_V$ 'to become drunk', *taɛib*$_V$ 'to become tired', and *nasiy*$_V$ 'to forget'. The verbs in the second class refer to the onset of an activity, and their APs

express Perfect Aspect, just as the verbs in the first subclass.[153] Examples are *nām*$_V$ 'to fall asleep', *rakib*$_V$ 'to mount', and *labis*$_V$ 'to put on, wear'. The third class consists of movement verbs such as *sāfar*$_V$ 'to set out to travel', *ḏahab*$_V$ 'to go out', and *ijtamaε*$_V$ 'to assemble, meet'. Their APs may express Perfect Aspect in relation to the onset of the SoA (i.e. 'travelling', 'going', 'assembling'), or in relation to the completion of the SoA (i.e. 'having travelled', 'having gone', 'having assembled'). The APs of movement verbs may have a prospective value as well.

6.2.7. On the analysis of Inceptive SoAs

6.2.7.1. Eisele's borderline cases

The APs of Momentaneous SoAs which do not have a modal value are all analyzed as indicating Perfect Aspect. This is in line with the approach advocated by Cowell (1964: 271) and Woidich (1975), who both assume a consequent state meaning for the AP, which just happens to result in a present continuous with inherently inceptive verbs. Eisele (1990b: 220-221) objects to the hypothesized punctual character of inceptive verbs. He points at a class of verbs which have an AP with concurrent state meaning (and are thus inceptive in Woidich's analysis, which Eisele comments upon), but which can still have a present continuous meaning in the prefix set with *bi-*, something which should be excluded on the basis of their inherent punctuality.

Eisele identifies the verbs in this class as *interval inchoatives*. Some examples are *libis*$_V$ 'to get dressed' and *rikib*$_V$ 'to get on, aboard', which are indeed analyzed as inceptive by Woidich. Eisele's findings are confirmed by Mitchell (1978: 238), who allows for a progressive as well as a habitual interpretation for the prefix set with *bi-* of the Egyptian Arabic verb *libis*$_V$ 'to don, put on, get dressed in' (27a), while the AP of the same verb is uniquely interpreted as 'wearing', i.e. the state resulting from the inception (27b):

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153. McCarus (1976: 23) mentions a possible meaning of Progressive Aspect too, but this must be interpreted as Perfect Aspect with reference to the onset of the activity.

Egyptian Arabic (Mitchell 1978: 238/242)
(27) a. *bi-*   *yilbis*   *il-*   *badla*
         PROG/HAB- put on:3.M.SG the- suit
         'He is putting on the suit' or 'He wears the suit (habitually).'
      b. *lābis*   *il-*   *badla*
         put on.AP:M.SG   the- suit
         'He is wearing the suit.'

Forstner (1990: 250) discusses a similar Moroccan Arabic verb class, which includes the verbs *lbes*$_V$ 'to wear, to put on', *rkeb*$_V$ 'to mount, to ride', and *gles*$_V$ 'to sit (down)'. With these verbs, the prefix set with the preverbal marker *ka-* may express Progressive (28a) or Habitual (28b) Aspect, while the AP refers to a present state (28c):

Moroccan Arabic (Forstner 1990: 249/250)
(28) a. *ŗā-*   *h*   *kā-*   *ilbes*   *dāba*   *t-*   *tarbūš*
         EMP- 3.M.SG   PROG- wear:3.M.SG now   the- hat
         dyāl- *u!*
         of-   him
         'He is putting his hat on right now!'
      b. *hūwa* *kā-*   *ilbes*   *dīma*   *tarbūš* *melli*
         he   HAB-   wear:3.M.SG always   hat   when
         kā-   *ixrož*   *men* *ḍ-*   *ḍār*
         HAB-   go out:3.M.SG   from   the- house
         'He is always wearing a hat when he leaves the house.'
      c. *hūwa* *lābes*   *tarbūš*
         he   wear.AP:M.SG   hat
         'He is wearing a hat.'

In my view, we can explain these contradictory findings without accepting a special class of Inceptive SoAs if we assume that the verbs like Egyptian Arabic *libis*$_V$ and Moroccan Arabic *lbes*$_V$ are not punctual/inceptive, but developmental. As developmental verbs, which prototypically refer to Telic SoAs, they may co-occur with progressive markers, while their APs describe the resultant state of 'having put on', or 'having mounted'. The recognition of their inceptive character is thus not essential for the treatment of these verbs.

6.2.7.2. Two perfects for movement verbs

A final problem concerns the existence of two different types of Perfect Aspect for some movement verbs. While the APs of these verbs refer to an activity as the result of its prior inception (for example: Egyptian Arabic *rāyiḥ* 'going, having set out'), the Perfect Aspect value of the suffix set does not allow for this interpretation and accentuates the resultant state in terms of *having gone* instead of *going*. For some verbs, the AP may have both meanings (see also 6.2.6):

> Egyptian Arabic (Mitchell and El-Hassan 1994: 84)
> (29) šuft-   u(h) ṭāliɛ   min il-   'ōḍa
> <u>see</u>:1.SG- him   come forth.AP:M.SG   from the-   room
> 'I saw him leaving the room' or 'I saw he had left the room.'

It is difficult to account for these two different types of Perfect Aspect in relation to one single verb. A more detailed investigation of these cases must indicate whether there are two polysemous verbs, one punctual/inceptive, with an AP which refers to an activity, and one developmental, with an AP which refers to a resultant state. If the group of this type of verbs is relatively large, it may be better to recognize a special Inceptive SoA-type after all, in which case these verbs do not have to be analyzed as polysemous.

6.3. Some exceptions

6.3.1. Preverbal markers with the AP

In view of the various interpretations of the AP, which may provoke confusion in some cases, it is interesting that at least one MA dialect differentiates between different functions of the AP by preverbal markers. According to Behnstedt (1987: 160-161), the Yemeni Arabic dialect of an-Naḏīr reinforces the resultative function of the AP by the preverbal marker [*gad* + pronominal suffix] (see also section 5.5.4). The combination of [*gad* + pronominal suffix + AP] leads to expressions such as *gannī tāɛib* 'I am tired (I have become tired)' and *gakkum ɛāṭišīn* 'you are thirsty (you have become thirsty). An example is provided in sentence (30):

Nadīri Arabic (Behnstedt 1987: 171)

(30) *ġarba*   *ɛalē- nā*   *wu*   *kān*
     become evening:3.F.SG on- us   and <u>be</u>:3.M.SG
     ga- *k*   *tāɛib*   *mē* *s-* *safar...*
     PM- you become tired.AP:M.SG from the- journey
     'It became evening and you were tired from the journey...'

APs with a progressive (or present) meaning have a prefix *hā-*, or, in case of special emphasis, *fā-*. Thus, *'anī hāmākul* only means 'I am eating', *hāmbakkīn* is translated with 'they are crying', and *fāgāwlīn* is 'they are saying' (with strong emphasis). An example of [*hā-* + AP] is:

Nadīri Arabic (Behnstedt 1987: 170-171)

(31) *...wa-* *lā*   *bi*   *ḥḥad*   *hā-*   *bāyiɛ*   *ġāt*
     and- NEG   at   someone PROG- sell.AP:M.SG qat
     'And there wasn't anyone (who was) selling *qāt*.'

Some other MA dialects use a preverbal emphatic marker with the AP. An example is provided by Moroccan Arabic, which uses the preverbal [*ṛa-* + pronominal suffix] in combination with APs as well as other verb forms. [*ṛa-* + pronominal suffix + AP] may indicate Perfect (32a), Progressive (32b) and Prospective (32c) Aspect:

Moroccan Arabic (Caubet 1993a: 234/235)

(32) a. *ṛā-*   *ni*   *mhuwwed*   *eš-* *šanṭa!*
        EMP- me   bring down.AP:M.SG the- suitcase
        'But I have already brought the suitcase down!'
     b. *ṛā-*   *ni*   *mhuwwed-*   *ha* *dāba!*
        EMP- me   bring down.AP:M.SG- it   now
        'I am bringing it down right now!'
     c. *ġedda,* *āna* *mhuwwed*   *el-frāš* *l-es-sefli!*
        tomorrow I   bring down.AP:M.SG the-bed downstairs
        'Tomorrow, I am going to bring the bed downstairs!'

The preverbal marker *ṛa-* is thus not a specific device used to differentiate between the various functions of the AP, as appears to be the case with the markers *gad*, *hā-* and *fā-* in the MA dialect of an-Nadīr.

6.3.2. APs with a temporal value

The AP in Jordanian Arabic may indicate past time reference without implying that a resultant state is still valid at the moment of speech or any other reference point, and without a special modal interpretation (Mitchell and El-Hassan 1994: 78-86). Accordingly, the AP can be used to indicate a sequence of two events, as in (33a), and may co-occur with a past time adverbial, as in (33b):

Jordanian Arabic (Mitchell and El-Hassan 1994: 78)

(33) a. *kān*   *lābis*   *il-*   *badle*   *w*
          be:3.M.SG put on.AP:M.SG   the- suit   and
          šālih̄-   *ha*   *(lamma* *šuft-*   *u(h))*
          take off.AP:M.SG- it   when   see:1.SG- him
          'He had worn the suit and taken it off (when I saw him).'

      b. *hum(ma)*   *mittifqīn*   *imbārih̄*
          they   agree.AP:PL yesterday
          'They agreed yesterday.'

The use of the AP in sentence (33b) does not imply a special modal value, as in the Cairene Arabic example in (29). In Jordanian Arabic, an AP of the auxiliary verb $kān_V$ may be used in combination with another AP, to indicate a past perfect or a 'past in the past':

Jordanian Arabic (Mitchell and El-Hassan 1994: 78)

(34) *kāyin*   *lābis*   *il-*   *badle*
     be.AP:M.SG put on.AP:M.SG   the- suit
     'He had put on the suit' or 'He had been wearing the suit.'

A verbal complex with two APs is ungrammatical in most (or all) other MA dialects.

It appears that the Jordanian Arabic AP may indicate Perfect Aspect, Past Tense, and Past Mood. In view of the universally attested tendency of forms which express Perfect Aspect to develop into forms which express Past Tense, the temporal functions of the AP in this dialect may reflect a

relatively recent development.[154] It will be interesting to investigate whether temporal uses of the AP are found in other MA dialects as well, or whether they are limited to the Jordanian Arabic variety described by Mitchell and Al-Hassan (1994).

6.4.   General findings

6.4.1.   Classification

Within the scope of this study I can not provide for an FG classification of Arabic verbs according to the type of SoAs they may describe. Such a classification would have to be accomplished for each variety of Arabic separately, and may not rely on the existing classifications, since these classifications do not differentiate between verbal meaning and SoA-type. New classifications have to be based on quantitative studies of various corpora, and need to consider the verb in relation to its context. Specific attention must be paid to the possibility that a verb may have several related but different meanings. The FG representation of verbal predicates together with their predicate frames provides a convenient way of recognizing and registering differences in the qualitative and quantitative valency of verbs, which may prove important for their classification.

On the basis of the material surveyed here I can not answer the question whether the four FG SoA categories are sufficient for the description of Arabic. In view of the existence of two types of Perfect Aspect for a group of verbs (see section 6.2.7.2), a fifth class of Inceptive SoAs should be considered in further research.

Table 21 gives an impression of the interaction of some verb forms and SoA-types as can be deduced from the descriptions of MA dialects discussed in section 6.2. It is based on the general distribution of verbal functions, but is not applicable to all varieties.[155] The bare prefix set and the prefix set with a preverbal prospective/future marker (such as *ḥa-* in Egyp-

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154. See for instance Bybee and Dahl (1989: 74) for a description of this developmental tendency.

155. Jordanian Arabic, for instance, shows a different distribution of meaning between the AP and the suffix set (see section 6.3.2). Varieties which do not have a combined progressive/habitual marker do not completely fit the description in the table.

tian Arabic) are not included in the table, as these forms contrast only with the modal function of the AP, which is not related to the Aktionsart of the SoA. For the (non-modal) AP, the suffix set, and the prefix set with a combined progressive/habitual marker, the table specifies which values the verb form may have.

Table 21. The interaction of some verb forms and SoA-type

SoA-type	AP	Suffix set	Prefix set + marker
Static	(Conc.)	Past	-
Dynamic	Concurrent	Past/(Perfect	Progressive/Habitual
Telic	Perfect	Perfect/Past	Progressive/Habitual
Momentaneous	Perfect	Perfect/Past	Habitual

Table 21 does not differentiate between Past Tense and Past Mood, since the suffix set may indicate both. For lack of definite examples of APs referring to a Static SoA, I have left it open whether or not such an AP may indicate a concurrent state as Cowell (1964: 269) claims for Syrian Arabic. As Static SoAs do not normally have a resultant state, it is assumed that their suffix sets can only have past meaning. Dynamic SoAs may have a resultant state (for instance if there are apparent physical results of an earlier activity), but it is not clear whether such a state may be indicated by the suffix set. The modal function of the AP will be discussed in section 6.4.2.

6.4.2. The modal function of the AP

The modal function of the AP is analyzed as essentially independent of SoA-type. The modal use of the AP stresses the actuality of the SoA, regardless of its temporal location in the past, present or future. Denz (1971: 115) refers to the modal function of the AP in the dialects of Kwayriš (Iraq) with the German term *Gewissheitsfunktion*. Within FG, the modal function of the AP may be analyzed as the expression of a π_2-operator, indicating the certainty of the occurrence of the SoA (Actual Mood).

The APs in the examples provided by Denz (1971), Woidich (1975), and Caubet (1991) are often used with a high personal commitment to the truth of the statement (Assertive Mood) or strong emphasis on the assertion (Exclamative Mood). Further research must indicate whether these π_3- and π_4-values are directly expressed by the AP, or follow from the context, intonation, or additional satellites or particles. The following sentence may be analyzed as having modal expressions which belong to three different layers in the FG model. The σ_4-satellite *wallāhi* reinforces the strength of the illocution. The emphatic prefix *la-* indicates a high personal commitment to the truth of the proposition, which is analyzed as the expression of a π_3-operator, while the AP expresses the actuality (π_2) of the SoA:[156]

Egyptian Arabic (Woidich 1975: 284)
(35)   *wallāhi la-*   *ana*   *bayie-*   *ha*
      by God EMP-   I   sell.AP:M.SG-   her
      'By God, I will certainly sell her.'

More research concerning the expression of Mood and Modality in MA dialects is necessary to assess the distribution of functions between verb forms, such as the AP in (35), and modal prefixes and particles.

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156. According to Hinds and Badawi (1986: 34), *w-allāhi* 'by God!' is used to lend emphasis to a request, statement or question. It thus falls outside the scope of the Basic Illocution of an expression, which is characteristic of satellites of the fourth layer. The emphatic prefix *la-* introduces a strong assertion or oath (Hinds and Badawi 1986: 775), and falls inside the scope of the Basic Illocution. It may be combined with different verb forms.

7. Verbal complexes

7.0. Introduction

In chapter 5 and 6, I have introduced the Arabic verb forms, and argued that most of them may express several different TMA values. Dik (1989a: 300-303) accounts for the use of such verb forms by the interplay of three types of *morpho-syntactic operators* (μ-operators), which together determine the form of an expression by applying rules of the format:

(1)   Operator[Operandum] = Value

Primary μ-operators are present in the underlying E-structure and have a direct semantic interpretation (see also section 3.1.2). The only primary μ-operators which need to be considered for the description of verb forms are the different types of π-operators, which function as primary μ-operators in the expression component. *Auxiliary* μ-operators do not occur as such in the E-structure, but are introduced by expression rules in order to trigger later expression rules. These auxiliary μ-operators serve to express a variety of semantic relations, but have a unified formal effect on their operandum. *Contextual* μ-operators are primarily used to capture agreement relations.

According to Dik (1989a: 302), verb forms which serve a variety of purposes, such as the English present participle, can best be represented by auxiliary μ-operators. Auxiliary μ-operators map a π-operator value, such as Progressive Aspect, onto the verbal category 'present participle', and then proceed to effectuate the corresponding formal inflection.

In the case of Arabic, π-operators of different layers in the E-structure may be expressed through the same verb form. I will therefore assume that these π-operators get their expression through auxiliary μ-operators that assign a formal category (suffix set, prefix set, AP, *bi*-prefix set, etc.) to the semantic value indicated by the π-operator. A simple verb form can express only one TMA value at a time. This chapter deals with verbal complexes in which two or more finite verb forms together allow for the combined marking of different TMA values. Moutaouakil's treatment of the so-called *incomplete* verbs (verbs with auxiliary and copular functions) in MSA will

be taken as the starting-point for a discussion of the FG analysis of verbal complexes (7.1).[157]

Moutaouakil (1988) represents all incomplete verbs as being the direct expression of π-operators. This approach does not differentiate between equivalents of the verb *kān*$_V$ 'to be' and other verbs with copular and auxiliary functions. I will argue that *kān*$_V$ must be distinguished from other copular/auxiliary verbs on the basis of distribution and meaning.

I propose to account for the use of *kān*$_V$ by a *copula support rule*, which must be adapted to allow for the insertion of a 'copula' in verbal sentences as well (7.2). The effects of such an *auxiliary support rule* will be demonstrated with examples from CA/MSA (7.3) and some MA dialects (7.4). With respect to the other incomplete verbs it will be questioned whether these are all grammaticalized to the extent that they should be treated as the direct expression of π-operators (7.5). Some alternative solutions will be suggested.

7.1. Copular and auxiliary verbs in MSA

7.1.1. The incomplete verbs

The most frequently used verbal complexes involve a form of the auxiliary verb *kān*$_V$ 'to be'.[158] The same verb also functions as a copula in expressions with a nonverbal predicate. In the absence of a special modal value, statements with present time reference do not require a verb. The following

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157. Sections (7.1) and (7.2) are based on Cuvalay (1994a).

158. The auxiliary status of *kān*$_V$ is questioned by a number of orientalists, as it exhibits characteristics of an independent verb in complex verbal expressions like

> *kuntu   jā'a   'ab-   ī*   (Bravmann 1953: 83)
> be:1.SG came:3.M.SG   father-   my
> 'My father came.' (lit: 'I was (such that) my father came.')

In this sentence, the first and second verb form are not co-referential, indicating that they do not form a verbal complex together. I do not reject the possibility that *kān*$_V$ may function as an independent verb, and regard these alternative uses as remnants of a *pre-auxiliary* stage of this verb. For an interesting hypothesis concerning the origin of *kān*$_V$ as a copular/auxiliary verb I refer to Bravmann (1953: 73-86). The synchronic existence of independent *kān*$_V$ does not invalidate my proposal for the treatment of auxiliary *kān*$_V$.

pairs of sentences show the use of *kān*$_V$ as a marker of past time reference in MSA examples with nonverbal (2a-b) and verbal (2c-d) predicates:

> Modern Standard Arabic (Fassi Fehri 1993: 152/211/192)
> (2) a. *ar- rajul- u fī d- dār- i*
>   the- man- NOM in the- house- GEN
>   'The man is in the house.'
>   b. *kāna r- rajul- u fī d- dār- i*
>   be:3.M.SG the- man- NOM in the-house- GEN
>   'The man was in the house.'
>   c. *ar- rajul- u ya'kulu*
>   the- man- NOM eat:IND.3.M.SG
>   'The man is eating.'
>   d. *kāna r- rajul- u ya'kulu*
>   be:3.M.SG the- man- NOM eat:IND.3.M.SG
>   'The man was eating.'

Arab grammarians traditionally classify *kān*$_V$ together with some other verbs with copular and auxiliary functions in one group, referred to as *kāna wa axawātuhā* '*kān*$_V$ and its sisters'. Apart from *kān*$_V$ itself, this group contains the verbs *lays*$_V$ 'not to be',[159] *ṣār*$_V$ 'to become', and three subgroups of three or more phasal-aspect-modifying verbs with meanings like 'to become', 'to remain' and 'not to cease'.

An example with one of the sisters of *kān*$_V$ in combination with a verbal predicate is given in (3):

> Modern Standard Arabic (Moutaouakil 1988: 187)
> (3) *'aṣbaḥa xālidun yaktubu š- šiεra*
>   become:3.M.SG Khālid write:3.M.SG the- poetry
>   'Khālid has started to write poetry.'

The occurrence in constructions with a verbal predicate is characteristic of two other groups of verbs (meaning 'to be about' and 'to begin'), that, together with *kān*$_V$ and its sisters, are called *al-afεālu n-nāqiṣah* 'the incomplete verbs'. Although most of these verbs may function as independent

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159. The verb *lays*$_V$ can only be inflected with suffixes and is used for the negation of predications with present time reference.

verbs as well, their typical use is 'incomplete' in that they occur in constructions with another verb or a nonverbal predicate. Except for *kān*$_V$, which may be combined with any other verb form, the incomplete verbs usually form constructions with a verb in the indicative prefix set.

7.1.2. The FG treatment of *kān*$_V$ as a copular verb

As stated above, nonverbal predications do not require a copular verb in the actual present tense. An adjectival predicate such as *dakī̌y*$_A$ 'intelligent' can be put to predicative use without any further support, as in (4):

Modern Standard Arabic (Moutaouakil 1988: 195)
(4) *hind-   un   dakī̌y-   at-   un*
Hind- NOM   intelligent- F-   NOM
'Hind is intelligent.'

Within the FG framework, the underlying E-structure of this sentence is represented as:

(5) *dakī̌y*$_A$ (d1x$_i$: *hind*$_N$(x$_i$))$_\emptyset$

This E-structure is directly mapped onto (4) by the μ-operators in the expression component. If the E-structure in (5) is extended with a π-operator value which requires verbal expression, the auxiliary μ-operators need to map this value onto a verb, and the copula *kān*$_V$ is inserted by a copula support rule of the following format:

COPULA SUPPORT IN MSA (based on Moutaouakil 1985)
(6) input: π predicate$_\beta$ (x$_1$) (x$_2$)...(x$_n$)
conditions: π = any TMA value which requires verbal expression
             β = Nominal, Adjectival, Adpositional, Adverbial
output: π *kān*$_V$ predicate$_\beta$ (x$_1$) (x$_2$)...(x$_n$)

This copula support rule, which is considered to operate within the expression component, is sensitive to the presence of a π-operator value in combination with a nonverbal predicate. It accounts for the presence of a form of *kān*$_V$ in the expressions in (9) which correspond to the E-structures in (7).

(7) a. Past Tense $\underline{dak\,\bar{t}y}_A$ (d1x_i: $hind_N(x_i))_\theta$
    b. Inferential Mood $\underline{dak\,\bar{t}y}_A$ (d1x_i: $hind_N(x_i))_\theta$

The π_2-operator value Past Tense (7a) and the π_3-operator value Inferential Mood (7b) both trigger the insertion of $k\bar{a}n_V$ through the intermediation of the copula support rule, resulting in the structures in (8):

(8) a. Past Tense $k\bar{a}n_V$ $\underline{dak\,\bar{t}y}_A$ (d1x_i: $hind_N(x_i))_\theta$
    b. Inferential Mood $k\bar{a}n_V$ $\underline{dak\,\bar{t}y}_A$ (d1x_i: $hind_N(x_i))_\theta$

The structures in (8) are treated further by the auxiliary μ-operators. The verb $k\bar{a}n_V$ is coded for inflection according to the suffix set (8a) or the indicative prefix set with the preverbal marker *qad* (8b), eventually resulting in the expressions in (9).[160]

(9) a. *kānat   hind-   un   dakīy-   at- an*
        <u>be</u>:3.F.SG Hind-   NOM   intelligent- F-   ACC
        'Hind was intelligent.'
    b. *qad   takūnu   hind-   un   dakīy-   at-   an*
        PM   be:IND.3.F.SG   Hind-   NOM   intelligent- F-   ACC
        'Hind may be intelligent.'

Moutaouakil (1988: 185) abandons the copula support rule in (6) in favour of a set of expression rules which capture the copular and auxiliary functions of $k\bar{a}n_V$ and the other incomplete verbs. The following section describes some of these rules.

7.1.3. Moutaouakil's representation of the incomplete verbs

In this section I will explain how Moutaouakil (1988) accounts for the combined expression of different TMA values in verbal complexes with one of

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160. Contextual expression rules take care of the agreement relations and case assignment. Nominal and adjectival predicates which combines with a form of $k\bar{a}n_V$ or one of the other verbs in the incomplete group have to be marked for the accusative case (as opposed to the nominative case, which is used in the absence of a copular verb).

the incomplete verbs. Moutaouakil's classification of TMA values differs from the one introduced in chapter 5. According to Moutaouakil (1988: 186), the aspectual values relevant to MSA are Perfective and Imperfective. The Imperfective is further differentiated by the operator values *Inchoative* (*Continuous* or *Non-Continuous*), *Durative* (*Habitual* or *Iterative*), *Non-Achieved* (in the sense of still going on) and *Approximative* (Immediate Prospective). The temporal operator may assign the values Present, Past, and Future, the Past being further subdivided into *Absolute* and *Relative Past*.[161] I will give two examples to show how this classification is used in expression rules which account for the interaction of TMA values.

According to Moutaouakil (1988: 189), a verbal predicate which is modified by an aspectual operator with the value Perfective (Perf) will be expressed by the suffix set when it refers to the Absolute Past (AbsPast), and by a construction with the suffix set and the auxiliary verb *kān*$_V$ when it refers to the Relative Past (RelPast). This is captured by the following rules:

(10) a. input: $[\text{Perf}[\text{AbsPast}[\text{pred}_V(x_1)...(x_n)]]]$

     output: $[\text{pred}_V \text{ <suffix set> } (x_1)...(x_n)]$

   b. input: $[\text{Perf}[\text{RelPast}[\text{pred}_V(x_1)...(x_n)]]]$

     output: $[\text{kān}_V\text{-pred}_V\text{<suffix>}(x_1)...(x_n)]$

These rules are supposed to account for the different forms of the predicate in sentences (11a) and (11b).

       Modern Standard Arabic (Moutaouakil 1988: 187/186)
(11) a. *najaḥat   zaynab-   u*
     succeed:3.F.SG Zaynab-   NOM
     'Zaynab has succeeded.'

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161. Moutaoukil's classification of TMA values includes some values which I would classify as SoA-features. The terms which indicate the different TMA values are not defined independently, and will not be discussed here.

b. *sa-*   *'uɛʄu-*   *ka*   *l-*   *kitāba*   *ġadan*   *'iḏ*
   FUT- lend:IND.1.SG- you the- book   tomorrow because
   sa-   *'akūnu*   *'anhaytu*   *qirā'ata-*   *hu*
   FUT- be:IND.1.SG <u>finish</u>:IND.1.SG reading- his
   'I will lend you the book tomorrow as I will have finished reading
   it then.'

In Moutaouakil's representation, the occurrence of a form of the verb *kān*$_V$ (*sa-'akūnu*) in (11b) is motivated by the combination of the operator values Perfective and Relative Past assigned to the verbal predicate *'anhā*$_V$ 'to finish'. The possibility to inflect *kān*$_V$ is not represented in the rule in (10b). The marking of Future Tense on the auxiliary verb in (11b) is treated as an extra option which presents itself after *kān*$_V$ is inserted, and not, as I will propose later, as the reason for its insertion.

An example of Moutaouakil's treatment of the other incomplete verbs is concerned with four verbs with the meaning of 'to begin'. A predicate which is characterized as Imperfective (Imperf), Inchoative (Inch) and Non-Continuous (Non-Cont) will be inflected according to the indicative prefix set, preceded by one of the auxiliary verbs *šaraɛ*$_V$, *ṭafīq*$_V$, *bada'*$_V$, and *jaɛal*$_V$ (Moutaouakil 1988: 191). The form of the auxiliary verb may indicate Past (12a), Present (12b), Future (12c) or Generic Tense (12d).

     Modern Standard Arabic (Moutaouakil 1988: 187/191)
(12) a. *šaraɛa*   *xālid-*   *un*   *yaktubu*
     <u>begin</u>:3.M.SG Khālid- NOM   write:IND.3.M.SG
     r-   *risālata*
     the- letter
     'Khālid began to write the letter.'
   b. *yašraɛu*   *xālid-*   *un*   *yaktubu*
     begin:IND.3.M.SG   Khālid- NOM write:IND.3.M.SG
     r-   *risālata*
     the- letter
     'Khālid begins to write the letter.'
   c. *sa-* *yašraɛu*   *xālid-*   *un*   *yuḥarriru*
     FUT- begin:IND.3.M.SG Khālid- NOM   edit:IND.3.M.SG
     maqāla-   *hu*   *ġadan*
     article-   his tomorrow
     'Khālid will begin to edit his article tomorrow.'

d. *yašraɛu*   *ṯ- ṯalǰ-*   *u*   *yadūbu*
     begin:IND.3.M.SG   the- snow-   NOM   melt:IND.3.M.SG
     fī   r-   rabīɛi
     in   the-   spring
     'The snow begins to melt in the spring.'

Moutaouakil (1988: 192) formulates the expression rules for this type of constructions as follows:

(13) input: [Imperf [Inch [NonCont [Past
                                          Present $[pred_V(x^1)...(x^n)]]]]]]$
                                          Future
                                          Generic

                $šaraɛ_V$
     output: [$tafiq_V$ prefix set—$pred_V(x^1)...(x^n)$]
                $bada'_V$
                $jaɛal_V$

The rules for the insertion of the other incomplete verbs are built in the same way. This means that the verb $kān_V$ as well as the other incomplete verbs are all inserted through the direct mapping of (combinations of) operator values onto auxiliary verbs. In my opinion, this approach does not do justice to the special characteristics of $kān_V$, which distinguish this verb from the other members of the incomplete group. In the following section I will enumerate some of the most important differences and suggest how they can be accounted for in the FG model.

7.2. Another FG approach to verbal complexes with $kān_V$

7.2.1. The differences between kān_V and other incomplete verbs

In my view, an FG treatment of Arabic auxiliary verbs should reflect the special role of $kān_V$. In support of this claim, I will discuss some differences which set this verb apart from the other incomplete verbs. First of all, $kān_V$ is the only verb which can be said to be lexically empty. It may be used freely, without considering the semantic features of the SoA designated by the predicate it supports. The other incomplete verbs all have a certain semantic content, such as 'beginning to', 'continuing to', etc., and may not be combined with [+ mom] SoAs. Possibly, some of the incomplete verbs

need additional selection restrictions to guarantee their correct use. A second significant difference is that *kān_V* may be combined with verbs in the suffix set, the indicative prefix set, the indicative prefix set with the preverbal marker *sa-*, or the AP-form. The other incomplete verbs combine with a verb inflected according to the indicative prefix set.[162] Like *kān_V*, the incomplete verbs may themselves occur in the suffix set or one of the forms of the prefix set. They can even be preceded by a form of *kān_V*, as in (14):

Modern Standard Arabic (Messaoudi 1985: 187)[163]
(14) *kāna*   *'aṣbaḥa*   *yastašeiru*   *rāḥatan...*
   <u>be</u>:3.M.SG <u>become</u>:3.M.SG feel:IND.3.M.SG rest
   'He started to feel at ease...'

As would be expected on the basis of these differences, complex verbal expressions with a form of *kān_V* are much more frequent than combinations with any other incomplete verb. In her analysis of a text in MSA, Messa-oudi (1985: 175) found 360 verbal complexes with a form of *kān_V*, whereas 15 other auxiliary verbs together accounted for 315 verb combinations. This observation confirms the general supportive function of *kān_V*, compared to the more specific uses of other auxiliary verbs.

A final remark concerns the uniqueness of *kān_V*. When a form of *kān_V* is used, it can usually not be replaced by another auxiliary verb without altering the meaning of the sentence. The other incomplete verbs belong to smaller subgroups of verbs with approximately the same meanings and functions.[164] This is reflected in the output of rule (13), where a choice can be made between four incomplete verbs meaning 'to begin'. The other incomplete verbs have similar representations, in which the output rules specify two or more alternatives.

According to Moutaouakil's 1988 proposal, all verbs with copular and auxiliary functions are the direct expression of an operator value, or of a

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162. Some inceptive verbs rarely occur with a suffix set verb form as well.

163. The example in Messaoudi (1985: 187) originally contains the verb *'axad_V* 'to start', but as this verb does not belong to the incomplete group I have replaced it by *'aṣbah_V* 'to become', which is used with an equivalent function.

164. This is not true for the verb *lays_V* 'not to be', which, like *kān_V*, has no synonyms. The verb *lays_V*, however, expresses only one value (Negation), whereas *kān_V* may express different TMA values.

specific combination of operator values. The facts suggest, however, that *kān*$_V$ is not associated with any particular value. Unlike the other incomplete verbs, *kān*$_V$ functions as a mediator and allows for the expression of a number of values through its ability to be inflected. Within the FG framework, the special function of *kān*$_V$ can be represented by a general support rule, which accounts for the copular as well as the auxiliary uses of this verb.

7.2.2. A general support rule

The MSA copula support rule in (6) is introduced by Moutaouakil (1985), and accounts for the insertion of *kān*$_V$ to express a number of operator values with nonverbal predicates. Moutaouakil (1988) abandons this rule, arguing that the copula *kān*$_V$ exhibits auxiliary functions as well, while other auxiliary verbs may have copular functions. With the aim of treating all verbs with auxiliary and copular functions in the same way, the original copula support rule is replaced by a set of rules which insert *kān*$_V$ as the direct expression of (a combination of) TMA values. Similar rules account for the insertion of other copular/auxiliary verbs.

In this section I propose to retain the original copula support rule for *kān*$_V$. It may be extended to capture the verb's general supportive function, as the conditions which motivate the use of *kān*$_V$ with nonverbal predicates also occur in structures with verbal predicates. In sentences with nonverbal predicates, the expression of a single TMA value already involves the insertion of the copular verb. With verbal predicates, the necessity of inserting a supportive verb arises as soon as two TMA values need to be expressed through verbal inflection. In these cases, the first value will be coded on the lexical verb. The second value can not be assigned to the lexical verb, as this is already coded for inflection according to the first value. This situation resembles that of a predication with a nonverbal predicate, in that the expression rules find an operator value requiring verbal expression in the E-structure, without having a verb available directly. This condition triggers the insertion of the supportive verb *kān*$_V$. The following principles describe *auxiliary support* in Arabic:

(i)   Only one TMA value can be expressed on a verb by inflection.

(ii)   Therefore, if two values are to be expressed on the same verb, a supportive auxiliary is needed.

(iii) The values which are closest to the predicate in the underlying E-structure have priority of expression on the lexical verb, thus forcing the outer operator value to be expressed on the auxiliary.

Within FG, this last principle is described as the *conveyor belt principle* (Dik 1994: section 5.2). The conveyor belt principle reflects the projective nature of the expression of TMA values, and predicts that π-operators which are close to the predicate in the underlying E-structure will exert their influence first. The output of an inner operator subsequently serves as input for an outer operator.[165] Example (15) illustrates how the principles in (i), (ii), and (iii) together account for the formation verbal complexes with *kān$_V$*:

      Modern Standard Arabic (Beeston 1970: 80)

(15) a. *kānat*   *al-*   *maḥkamatu* *tajlisu*   *kulla yawm*
       be:3.F.SG the-   court   sit:IND.3.F.SG every day
       'The court used to sit daily.'

   b. π_3: PAST MOOD; π_2: HABITUAL *jalas$_V$* (*al-maḥkamatu*)$_{Proc}$, etc.

In sentence (15a), two operator values are expressed, namely Past Mood and Habitual Aspect.[166] In the simplified E-structure in (15b), the π_2-operator with the value Habitual Aspect is closer to the verbal predicate *jalas$_V$* 'to sit' than the π_3-operator Past Mood. This means that the auxiliary μ-operators in the expression component will handle the inner π_2-value first. The μ-operators assign the value Habitual Aspect to the as yet uninflected verb by a code which corresponds to the indicative prefix set. At a later stage, this code is interpreted by the contextual μ-operators, and expressed on the verb by the proper stem form and agreement affixes.

    Now that the inflectional code corresponding to the π_2-value Habitual Aspect has been assigned to the lexical predicate, the expression rules proceed to the π_3-value Past Mood. As Past Mood is also expressed through verbal inflection, the auxiliary μ-operators search for an uncoded verb first.

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    165. Dik (1994) illustrates the implications of the conveyor belt principle for the formation of verbal complexes in a number of different languages.

    166. The suffix form of *kān$_V$* is here assumed to indicate Past Mood rather than Past Tense. If it is interpreted as indicating Past Tense, the relative ordering of aspectual and temporal operators within the π_2-layer has to account for the realization of this verbal complex.

This operation fails, as the verb *jalas*$_V$ already received a code. The inability to assign the suffix set code associated with Past Mood triggers auxiliary support. After the insertion of *kān*$_V$, the procedure is resumed, and the supportive verb *kān*$_V$ is coded for inflection according to the suffix set.

The formation of a verbal complex such as *sa-'akūnu 'anhaytu* 'I will have finished' in (11b) is explained by the combination of a π_1-operator with the value Perfect Aspect and a π_2-operator with the value Future Tense. Being closer to the predicate in the underlying representation, Perfect Aspect is coded on the verb first, resulting in a suffix form of the lexical predicate. For the marking of Future Tense the expression rules have to resort to the insertion of the supportive verb *kān*$_V$, after which this verb is coded for the prefix set with the preverbal marker *sa-*. Each time the expression rules go through the E-structure in an inside out order, and start with the π-operator closest to the predicate. In the following sections a number of verbal complexes with a form of *kān*$_V$ in CA/MSA (7.3) and MA dialects (7.4) will be analyzed in the same way.

7.3. Verbal complexes with a form of *kān*$_V$ in CA/MSA

7.3.1. Combinations of TMA values in CA/MSA verbal complexes

Through the general supportive function of *kān*$_V$, expressions with a verbal predicate may convey two TMA values. In most cases, these TMA values will belong to different layers in the E-structure. As the values associated with a lower π-operator are always expressed on the lexical predicate, and the values associated with a higher π-operator on *kān*$_V$, verbal complexes are less ambiguous than simple verb forms. Still, most combinations can have several interpretations. Table 22 presents CA/MSA verbal complexes with a form of *kān*$_V$. Most of them occur in both CA and MSA. *kāna sa-yafɛalu* and *sayakūnu (qad) faɛala* appear to be restricted to MSA, which has a more extended use of the preverbal marker *sa-* than CA (Blau 1976: 177). The complex form *kun tafɛalu* is very rare, and its interpretation in terms of a progressive form of the imperative is not certain.[167]

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167. Fischer (1972b: 107) translates *fa-kun 'anta tukallimuhum* with the German expression 'So rede du sie doch an!' Bravmann (1953: 124) interprets *kun taktubu* literally as 'be (one, who) writes (or: is writing)!'.

Table 22. Verbal complexes in CA/MSA

Form	Interpretation(s)	Ex.
kāna (qad) faɛala	Past Tense (π_2) + Perfect Aspect (π_1)	(16)
	Past Mood (π_3) + Perfect Aspect (π_1)	(17)
	Past Mood (π_3) + Past Tense (π_2)	(18)
kāna yafɛalu[168]	Past Tense (π_2) + Progressive Aspect (π_1)	(19)
	Past Mood (π_3) + Progressive Aspect (π_1)	(20)
	Past Mood (π_3) + Habitual Aspect (π_2)	(21)
kāna sayafɛalu	Past Mood (π_3) + Future Tense (π_2)	(22)
yakūnu (qad) faɛala	Future Tense (π_2) + Perfect Aspect (π_1)	(23)
sayakūnu (qad) faɛala	Future Tense (π_2) + Perfect Aspect (π_1)	(24)
yakūna (qad) faɛala	Nonactual Mood (π_2) + Perfect Aspect (π_1)	(25)
kun tafɛalu	Directive Illocution (π_2) + Progressive Aspect (π_1)	(26)

Special negative forms, such as *lam yakun (qad) faɛala* are not represented in table 22. Verbal complexes with a prefix or suffix form with the pre-verbal marker *qad* are not included as separate forms. *qad* occurs with the suffix set of both *kān$_V$* (*qad kāna faɛala*) and the lexical verb (*kāna qad faɛala*), but rarely with both of them in one verbal complex (*qad kāna qad faɛala*).[169] *qad* may precede an indicative prefix form of *kān$_V$* in verbal complexes, but [*qad* + indicative prefix set] seems not to be used for the lexical verb. Thus, the combinations *qad yakūnu faɛala* and *qad yakūnu yafɛalu* do occur, but not **kāna/yakūnu/sayakūnu/yakūna qad yafɛalu.*[170]

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168. *kāna yafɛalu* is frequently used to express [- dyn] SoAs with past time reference in combination such as *kāna yurīdu* 'he wanted' or *kāna yaɛrifu* 'he knew'. In these verbal complexes, the prefix set of the lexical verb does not really express Progressive Aspect, which is limited to [+ dyn] SoAs. The theoretical implications of this inconsistency will be discussed later in this section.

169. An MSA example of *qad kāna qad faɛala* is: *fa-qad kānati l-fajwatu qad ittasaɛat* 'the gap had already become wide' (Tawfīq al-Ḥakīm: *sijn al-ɛumr* (99,-1).

170. I am not sure about the non-occurrence of *kāna qad yafɛalu* with the interpretation of Past Mood and Objective possibility. It might be encountered in a narrative context. The form is not mentioned by Nebes (1982) for Classical Arabic.

The AP-form is also left out of the table. In verbal complexes, only the lexical verb can be in this form, with all possible aspectual meanings associated with the AP. Verbal complexes with an AP take the form of *kāna/yakūnu/sayakūnu/yakūna fāɛilan*. Like other adjectival and nominal predicates, the AP gets the accusative case in combination with one of the incomplete verbs. Verbal complexes with a suffix form of *kān$_V$* as the expression of Factual Mood are not considered here. They occur almost exclusively in conditional statements, and are discussed by Cuvalay (1994b; 1995a).

I have included a representative example in CA or MSA for each combination of TMA values in table 22. The numbers of the example sentences are indicated in the table. Some of the examples may have more than one interpretation, as the difference between values such as Past Mood and Past Tense can hardly be established without considering the full context of an expression. I have classified the examples according to what appears to be their most likely interpretation.

Classical Arabic (Fischer 1972b: 95)
(16) *hāḏihī* *'atānu- ki* *llatī* *kunti* *xarajti* *ɛalay-hā*
    this she-ass-your which <u>be</u>:2.F.SG <u>go out</u>:2.F.SG on- her
    'This is your she-ass, on which you had gone out (that time).'

Modern Standard Arabic (Cantarino 1974:72/71/73)
(17) *kāna* *qad* *jāwaza* *s-* *sittīn*
    <u>be</u>:3.M.SG PM <u>pass</u>:3.M.SG the- sixty
    'He was (had passed) over sixty.'
(18) *la-* *kuntu* *najawtu* *bi-* *jild-* *ī*
    PM- <u>be</u>:1.SG <u>escape</u>:1.SG with- skin- my
    'I had escaped with my skin.'
(19) *kāna* *yajlisu* *'ilay- hi* *min* *qabli-* *ka*
    <u>be</u>:3.M.SG sit:IND.3.M.SG at- it from before- you
    l- *'ustāḏu...*
    the- doctor
    'Doctor N. used to sit at it before you did.'

Classical Arabic (Fischer 1972b:96)
(20) *kāna* *l-* *maliku yamurru* *bi- hī*
    <u>be</u>:3.M.SG the- king pass:IND.3.M.SG by- him
    'The king was passing by him.'

(21) *yawman*   *xarajat*   *kamā* *kānat*   *tasnaɛu*
     one day   <u>go out</u>:3.F.SG like   <u>be</u>:3.F.SG do:IND.3.F.SG
     'One day she went out, like she used to do.'

     Modern Standard Arabic (Cantarino 1974: 75)

(22) *maɛa* *'anna- hum* *kānū*   *sa-* *yaqtulūna*   *min*
     with   that-   they <u>be</u>:3.M.PL FUT- kill:IND.3.M.PL from
     al-   *muslimīna man*   *yastatīɛūna*   *qatla- hu*
     the-   Muslims   whoever can:IND.3.M.PL killing- his
     'But they would continue killing as many Muslims as they could.'

     Classical Arabic (Fischer 1972b: 96)

(23) *fa-* *l-*   *na'xud-*   *hu* *fa-* *nakūnu*   *qad*
     so- ADH- take:<u>JUS</u>.1.PL- him so- be:IND.1.PL PM
     'axadnā *ɛiwad-*   *an*
     <u>take</u>:1.PL substitute- ACC
     'Let's take him, then we will have taken a substitute.'

     Modern Standard Arabic (Moutaouakil 1988: 186)

(24) *sa-* *'uɛīru-*   *ka* *l-*   *kitāba* *ġadan*   *'id*
     FUT- lend:IND.1.SG- you the- book   tomorrow because
     sa- *'akūnu*   *'anhaytu*   *qirā'ata- hu*
     FUT- be:IND.1.SG <u>finish</u>:IND.1.SG reading- his
     'I will lend you the book tomorrow as I'll have finished reading it
     then.'

     Classical Arabic (Fischer 1972b: 97/107)

(25) *ɛasā*   *'an* *yakūna*   *samiɛa*   *min-*   *nī*
     maybe that be:SUBJ.3.M.SG <u>hear</u>:3.M.SG from- me
     'Maybe he has heard from me.'

(26) *fa-* *kun*   *'anta* *tukallimu-*   *hum*
     so- be:IMP.M.SG you   address:IND.2.M.SG them
     'So you (must/should) be addressing them.'

7.3.2. Evaluation

TMA values which belong to the same layer do not seem to co-occur in a
verbal complex. A possible exception is the π_2-value Habitual Aspect,

which, at least theoretically, may be meaningfully combined with temporal values of the π_2-layer. As mentioned above, in the absence of the full context it is often difficult to assess whether an occurrence of *kāna faɛala* must be interpreted as the combined expression of Past Mood and Perfect Aspect, or Past Tense and Perfect Aspect. For most examples the first possibility appears most likely, and the other option is not represented in table 22.

Modal values of the π_3-layer do not combine with modal values of the π_2-layer. Illocutionary values of the π_4-layer appear to combine with aspectual values of the π_1-layer only. Most of these co-occurrence restrictions can be explained on the basis of the conflicting meaning which would result from the simultaneous expression of, for instance, Assertive and Nonactual Mood.[171] Expressions with a Directive Illocution (π_4) do not concern events which are situated in time (see Moutaouakil 1993). This explains why forms of *kān*$_V$ with a directive interpretation can, if at all, only combine with verb forms with an aspectual π_1-value (the AP, the suffix set, or the indicative prefix set).

Some verbal complexes which would be expected to occur, such as *yakūnu (qad) faɛala* as the expression of Habitual Aspect (π_2) and Perfect Aspect (π_1), *yakūnu yafɛalu* (Habitual Aspect (π_2) and Progressive Aspect (π_1)), and *yakūna yafɛalu* (Nonactual Mood (π_2) and Progressive Aspect (π_1)) are not represented in the grammars. *yakūnu (qad) faɛala* is mentioned with an interpretation of Future Tense (π_2) and Perfect Aspect (π_1) only (Fischer 1972b: 96), and *yakūnu yafɛalu* and *yakūna yafɛalu* are not discussed at all. I have not found any examples of *sayakūnu yafɛalu*, which would express Future Tense (π_2) in combination with Progressive Aspect (π_1). Messaoudi (1985: 227) reports that this type of verbal complex is absent in her MSA corpus, but that it might be found in other corpora, as an expression such as (27) "ne choquera nullement un lecteur arabe ou arabisant" ('will not shock an Arab lecturer or Arabist at all').

Modern Standard Arabic (Messaoudi 1985: 227)
(27) *sa-   yakūnu   yaštaġilu   fī   l-   maɛmali*
     FUT- be:IND.3.M.SG   work:IND.3.M.SG   in   the-   factory

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171. The combined expression of the π_3-value Assertive Mood and the π_2-value Nonactual Mood would lead to a subjectively certain proposition about an objectively uncertain event.

yawma l-'itnayni
Monday
'He will be working in the factory on Monday.'

At present, it is not possible to determine why these verbal complexes are not attested, as the co-occurrence restrictions of TMA values in general as well as in MSA need to be investigated more fully.[172]

A problem for the analysis proposed here is the frequent occurrence of verbal complexes such as *kāna yaɛrifu* 'he knew', which describe a state in the past. As Progressive Aspect is limited to [+ dyn] SoAs, and as the combination does not induce a habitual interpretation, the indicative prefix set of the lexical verb must be analyzed as the unmarked form. When the lexical verb is unmarked, we have to account for the use of *kān_V* in the absence of the conditions which normally trigger its insertion.

In my view, the preference for the expression with *kāna* as the marker of Past Tense or Mood with state verbs follows from the possible inceptive (Perfect Aspect) interpretation of the suffix set if it refers to [- dyn] SoAs (see chapter 6). To avoid the ambiguity of *ɛarafa*, 'he knew' or 'he discovered, came to know (and is now knowing)', the marking of Past Tense or Mood on the lexical verb is somehow skipped or blocked, which leaves it in the unmarked form. Another solution involves a different analysis of the relevant aspectual values for MSA. Instead of the narrow definition of Progressive Aspect, a wider durative value would have to be recognized. The implications of both of these solutions have to be investigated further.

In principle, there is no reason why a verbal complex should not express three TMA values, by using the auxiliary support rule twice.[173] Verbal complexes with two forms of *kān_V* rarely occur in expressions with a non-verbal predicate, such as (28):

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172. For Arabic, some excellent work has already been accomplished in this area, such as the analysis of all possible functions of CA *kāna yafɛalu* by Nebes (1982), and the description of simple and complex verb forms in the MA dialect of Kwayriš (Iraq) by Denz (1971).

173. Blau (1967: 433) reports the interesting sequence of *qad kān yakun qadīman yashar* 'who beforetime used sorcery' in a Christian Arabic text of the classical period. These texts show a considerable influence from the colloquial dialects spoken at the time. The verbal complex seems to express a combination of Past Tense + Habitual Aspect + Progressive Aspect, in which case it may be translated as 'who beforetime used to practise sorcery'.

Classical Arabic (Fischer 1972b: 96)

(28) a. *kāna*   *yakūnu*   *fī*   *l-*   *bayti*
be:3.M.SG   be:IND.3.M.SG   in   the- house
'He used to be in the house.'

     b. π_3: PAST MOOD; π_2: HABITUAL {(d1x$_i$: bayt(x$_i$))$_{Loc}$} (d1mx$_j$: [-Sp;-Ad] (x$_j$))$_\theta$

In this example, the π_2-value Habitual Aspect is handled by the expression rules first. This leads to the insertion of *kān*$_V$ directly before the nonverbal predicate *fī lbayti*. This supportive verb (eventually realized as *yakūnu*) is coded for inflection according to the indicative prefix set. The expression rules then proceed to the π_3-value Past Mood and the auxiliary support rule is triggered again, resulting in the insertion of the 'second' *kān*$_V$. This 'second' occurrence of *kān*$_V$ is subsequently coded for inflection according to the suffix set, and eventually realized as *kāna*. The fact that most of the TMA values may be underspecified in CA/MSA partly explains why verbal complexes with two forms of *kān*$_V$ do not seem to occur.

7.4. Verbal complexes with a form of *kān*$_V$ in MA dialects

7.4.1. Auxiliary support and the ordering of TMA values

The general supportive function of *kān*$_V$ which is described for CA and MSA in the previous sections operates in the same way in MA dialects. Example (29) from Egyptian Arabic shows a combination of a suffix form of *kān*$_V$ with an AP of the lexical predicate:

Egyptian Arabic (Hinds and Badawi 1986: 771)

(29) a. *kān*   *ɛāmil*   *il-*   *wāgib*   *lamma*
be:3.M.SG   do.AP:M.SG   the- homework   when
ruḥti-   *l-*   *u*
go:1.SG- to- him
'He had done his homework when I went to see him.'

     b. π_2: PAST TENSE; π_1 PERFECT *ɛamal*$_V$ (d1mx$_i$:[-S,-A](x$_i$))$_{Ag}$ (*il-wāgib*)$_{Go}$, etc.

In the simplified representation of the E-structure of (29a) in (29b), the π_1-operator with the value Perfect Aspect is handled by the expression rules

first. This results in an AP-form of the lexical predicate *ɛamal*_V. The following step involves the π_2-operator value Past Tense, which requires expression through the suffix set. As the lexical verb is already coded for inflection as an AP, the need to express the temporal value triggers the insertion of *kān*_V. The verb *kān*_V is subsequently coded for the suffix set. A similar example from Moroccan Arabic is given in (30):

Moroccan Arabic (Harrell 1962: 161)
(30) a. *koll nhar̯ ka-   tkun   režeet   ʃe-t-teseud*
         every day HAB-   be:3.F.SG   <u>return:3.F.SG</u>   at-the-nine
         'By nine o'clock every day, she has returned.'
   b. π_2: HABITUAL; π_1: PERFECT *r̯žee*_V (d1fx$_i$:[-S;-A] (x$_i$))$_{Ag}$, etc.

The expression rules specify that the π_1-value Perfect Aspect is to be expressed by inflecting the verbal predicate *r̯žee*_V according to the suffix set. The next operator value is Habitual Aspect (π_2), which also needs to be mapped onto a verb. The auxiliary support rule is triggered and provides for the verb *kān*_V. This verb is then coded for the prefix set with the preverbal marker *ka-* (which expresses Habitual Aspect in Moroccan Arabic).

The ordering principle associated with the layered E-structure can be used to account for the possible meanings of MA verbal complexes. In table 23 I have presented pairs of opposite verbal complexes in Egyptian Arabic (EA), together with their most common interpretation(s). These interpretations are always in line with the projectivity principle.

Table 23. Pairs of opposite verbal complexes in Egyptian Arabic

Complex	Form *kān*_V	Form pred_V	Value	Translation
kān biyiktib	suffix set	*bi*-prefix set	Past Progr	he was writing
			Past Hab	he used to write
biykūn katab	*bi*-prefix set	suffix set	Hab Perf	he usually has written
kān ḥayiktib	suffix set	*ḥa*-prefix set	Past Prosp	he was going to write
ḥaykūn katab	*ḥa*-prefix set	suffix set	Fut Perf	he will have written
biykūn ḥayiktib	*bi*-prefix set	*ḥa*-prefix set	Hab Prosp	he usually is about to write
ḥaykūn biyiktib	*ḥa*-prefix set	*bi*-prefix set	Fut Progr	he will be writing

The table shows that the EA *bi*-prefix set, which may express the π_1-value Progressive Aspect and the π_2-value Habitual Aspect in its simple form, is generally interpreted as indicating Habitual Aspect if it is coded on *kān*$_V$ in a verbal complex.[174] In a verbal complex with *biykūn*, the lexical verb always expresses an aspectual value of the π_1-layer, which may be Perfect Aspect, Prospective Aspect, or, in case of a verbal complex with the form *biykūn biyiktib* (see table 24 in the following section), Progressive Aspect.

The EA suffix set is in its simple form most often associated with the π_1-value Perfect Aspect and the π_2-value Past Tense. In verbal complexes, a suffix form of *kān*$_V$ may indicate Past Tense but not Perfect Aspect. It may be combined with a lexical verb expressing Progressive, Prospective, Habitual, or Perfect Aspect.[175] The combination of Past and Perfect is rendered by *kān katab* or *kān kātib* (see the following section).

The EA *ha*-prefix set may indicate Prospective Aspect (π_1) and Future Tense (π_2) in its simple occurrence. In complex forms, *haykūn* can not express Prospective Aspect and usually indicates Future Tense in combination with a lexial verb expressing Progressive or Perfect Aspect. The combination *haykūn hayiktib* (Future Prospective) occurs rarely or not at all.[176]

As the order in which TMA values are dealt with by the expression rules determines whether a certain value will be expressed on the lexical predicate or on the auxiliary *kān*$_V$, absolute claims about the location of temporal and aspectual marking within the verbal complex are both unnecessary and

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174. The function of the EA *bi*-prefix set to indicate Generic Mood is not considered here (but see table 24) as it is not very common and its inclusion would complicate the presentation unnecessarily. For the same reasons, the modal values of the suffix set and the *ha*-prefix set are not included in table 23.

175. Within the π_2-layer, the relative ordering of operators is supposed to be such that Habitual Aspect is universally expressed closer to the predicate than any temporal value (see for instance De Groot (1995: 40)).

176. According to Mitchell (1956: 38), the combination of Future Tense and Prospective Aspect can be expressed in EA by [*haykūn 'arrab* + prefix set], as in *law ruht' ɛandi midān ilhurrīya issāɛa talāta mazbūt, hatšuf ra'īs ilwizāra haykūn 'arrab yuxrug filwa'tida* 'If you go to the liberty square at exactly three o'clock, you will see the president who will be about to leave at that time.' El-Tonsi (1992: 19) gives the following example of *haykūn hayiktib*: *ɛala ma niwsal haykūn haynām* 'By the time we get there he will be about to sleep.' In view of its apparent rarity, *haykūn hayiktib* is not included in table 24.

easily refuted.[177] The following section illustrates how the ordering of
TMA values and the auxiliary support rule together provide a systematic
description of verbal complexes in Egyptian Arabic.

7.4.2. Verbal complexes with kān_V in Egyptian Arabic

Table 24 describes 28 EA verbal complexes in a systematic way. Not all
possible combinations of verb forms are included. In view of the various
aspectual values associated with the AP, verbal complexes with this form
are left out of the representation. AP forms of *kān_V* do not occur in EA
verbal complexes, but *kān kātib, biykūn kātib, ḥaykūn kātib,* and *yikūn kātib*
are all possible, and are often preferred to the other verbal complexes which
may convey the same meaning. In combinations with an AP, the lexical
verb expresses an aspectual value of the π_1-layer, while the forms of *kān_V*
indicate TMA values associated with one of the higher layers.

Just as in table 22 on verbal complexes in CA/MSA, I have not con-
sidered verbal complexes which involve the use of the suffix set of *kān_V* as
a marker of Factual Mood. These verbal complexes do occur almost
exclusively in conditional environments and are discussed elsewhere (Cuva-
lay 1994b). The use of the *bi*-prefix set as a marker of Generic Mood (π_3)
is not represented, as it is nonexistent or rare in verbal complexes. The use
of *yikūn* in verbal complexes to express Inferential Mood (π_3) is included
in the table, but may not be fully integrated in the verbal system of Egyp-
tian Arabic, as some informants accept it only in interrogative expressions
(*yikūn ġilit?* 'Could it be that he has made a mistake?'), preferably with
Negation (*ma-yikūn-ši ġilit?* 'Hasn't he made a mistake?').

Examples of the verbal complexes are given below, and their numbers
are indicated in the table. Some of the examples may have more than one
interpretation, as the differences between values such as Past Mood and Past
Tense, or Predictive Mood and Future Tense are often not perceptible with-
out the full context of an expression. For an overview of the functions of
simple verb forms in EA, I refer to table 17 on page 168.

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177. See for instance Jelinek's claim that Tense is always expressed on the
auxiliary and Aspect on the predicate in Egyptian Arabic verbal complexes (Jelinek
1981: 29; 1983), and Eisele's arguments against it (Eisele 1990a: 177-178; 1992).

Table 24. Verbal complexes in Egyptian Arabic

Verbal complex	Interpretation(s)	Example
kān katab	Past Tense (π_2) + Perfect Aspect (π_1)	(31)
	Past Mood (π_3) + Perfect Aspect (π_1)	(32)
	Past Mood (π_3) + Past Tense (π_2)	(33)
kān biyiktib	Past Tense (π_2) + Progressive Aspect (π_1)	(34)
	Past Mood (π_3) + Progressive Aspect (π_1)	(35)
	Past Mood (π_3) + Habitual Aspect (π_2)	(36)
kān ḥayiktib	Past Tense (π_2) + Prospective Aspect (π_1)	(37)
	Past Mood (π_3) + Prospective Aspect (π_1)	(38)
kān yiktib[178]	Past Tense (π_2) + Directive Illocution (π_4)	(39)
kunt iktib	Past Tense (π_2) + Directive Illocution (π_4)	(40)
biykūn katab	Habitual Aspect (π_2) + Perfect Aspect (π_1)	(41)
biykūn biyiktib	Habitual Aspect (π_2) + Progressive Aspect (π_1)	(42)
biykūn ḥayiktib	Habitual Aspect (π_2) + Prospective Aspect (π_1)	(43)
ḥaykūn katab	Future Tense (π_2) + Perfect Aspect (π_1)	(44)
	Assertive Mood (π_3) + Perfect Aspect (π_1)	(45)
	Assertive Mood (π_3) + Past Tense (π_2)	(46)
ḥaykūn biyiktib	Future Tense (π_2) + Progressive Aspect (π_1)	(47)
	Assertive Mood (π_3) + Progressive Aspect (π_1)	(48)
	Assertive Mood (π_3) + Habitual Aspect (π_2)	(49)
yikūn katab	Nonactual Mood (π_2) + Perfect Aspect (π_1)	(50)
	Inferential Mood (π_3) + Perfect Aspect (π_1)	(51)
	Inferential Mood (π_3) + Past Tense (π_2)	(52)
yikūn biyiktib	Nonactual Mood (π_2) + Progressive Aspect (π_1)	(53)
	Inferential Mood (π_3) + Progressive Aspect (π_1)	(54)
	Nonactual Mood (π_2) + Habitual Aspect (π_2)	(55)
	Inferential Mood (π_3) + Habitual Aspect (π_2)	(56)
yikūn ḥayiktib	Nonactual Mood (π_2) + Prospective Aspect (π_1)	(57)
	Inferential Mood (π_3) + Prospective Aspect (π_1)	(58)

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178. *kān yiktib* is used to express [- dyn] SoAs with past time reference, as the suffix set of state verbs such as *ɛirif*ᵥ 'to know' and *ḥabb*ᵥ 'to like, love' generally indicate the inception of the state which is decribed by the verb (Perfect Aspect). *kān yiktib* may also express habituality in the past as an alternative of *kān biyiktib*.

Egyptian Arabic[179]

(31) *di   l-   xamsīn ginē   lli   kānu   dafaɛu-   hā- l-   i*
    those the- fifty   pound   that   be:3.PL   pay:3.PL- it- to- me
    muqaddaman ɛala r- riwāya,   b-   arudda-   ha- l- hum
    as an advance for the- novel   PROG- return-   it- to- them
    'That fifty pounds which they have given me in advance for the novel,
    I am returning it to them.'

(32) *ayyamha   ya   ahmad ma-   kunt-   iš   ba'ēt*
    those days   VOC   Ahmad NEG-   be:1.SG- NEG   become:1.SG
    muhāmi
    lawyer
    'In those days, Ahmad, I had not become a lawyer (like I am now).'

(33) *wi   sūsu baɛd ma kānit   'arrabit   biɛdit*
    and   Sūsu after be:3.F.SG come near:3.F.SG go away:3.F.SG
    'And Sūsu, after she had come close, went away.'

(34) *lamma ruhti-   l-   u   kān   bi-   yzākir*
    when   go:1.SG- to- him be:3.M.SG PROG- study:3.M.SG
    'When I went to (see) him, he was studying.'

(35) *kānit   bi-   tutbux,   lamma l-   butagāz*
    be:3.F.SG   PROG- cook:3.F.SG   when   the- butagas
    xiliṣ
    finish:3.M.SG
    'She was cooking, when the butagas ran out.'

(36) *ayyamha,   kunt   b-   arūh   iš- šuġl māši*
    those days   be:1.SG   HAB-   go:1.SG   the- work walk.AP:M.SG
    'In those days, I used to walk to my work.'

(37) *kunna   ha-   nzākir,   lākin in-   nūr   in'aṭaɛ*
    be:1.PL   PROSP- study:1.PL but   the- light be cut:3.M.SG
    'We were going to study, but the electricity went out.'

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179. Most examples are from El-Tonsi (1992), and can be found on the following pages: (34): 10; (35): 62; (36): 10; (37): 12; (39): 9; (40): 24; (41): 16; (42): 72; (43): 18; (44): 18; (47): 19; (50): 24; (52): 23; (58): 23. The other examples are from Wise (1975) (46): 117; (48): 117, Jelinek (1981) (49): 56; (53): 87, and Hinds and Badawi (1986) (57): 948. Examples (31), (32), (33), (38), (45), (51), (54), and (55) have been selected from an unpublished collection by Manfred Woidich, based on Egyptian Arabic texts (mostly plays) and natural conversations. The example in (56) is composed and has been checked with an informant.

(38) *ṭabṭabt*ⁱ *ɛal-ē*   *wi*   *kunt*ⁱ   *ḥa-*   *būs*   *wi*   *'ult...*
pat:1.SG on-him and   be:1.SG PROSP-kiss.1.SG and say:1.SG
'I patted him and was about to kiss him and said...'

(39) *kān*   *yi'ul-*   *l-* *i* *l-*   *'awwil!*
be:3.M.SG say:3.M.SG- to- me the- first
'He should have told me first.'

(40) *kunt*   *'ul-*   *l-* *i* *inn-* *ak*
be:2.M.SG say:IMP.M.SG- to- me that- you
miš *gāy*
NEG come.AP:M.SG
'You should have told me you were not coming.'

(41) *ɛala* *ma* *b-*   *yirgaɛ,*   *mirāt-* *u* *bi-*   *tkūn*
upon that HAB- return:3.M.SG wife- his HAB- be:3.F.SG
nāmit
sleep:3.F.SG
'When he comes back, his wife is already asleep.'

(42) *lamma* *b-*   *yirgaɛ*   *bi-*   *tkūn*
when HAB- return:3.M.SG HAB- be:3.F.SG
bi-   *tiġsil*
PROG- wash:3.F.SG
'When he comes back, she is washing/doing the wash.'

(43) *lamma* *b-*   *yirgaɛ*   *il-* *'awlād* *bi-*   *ykūnu*
when HAB- return:3.M.SG the- children HAB- be:3.PL
ḥa-   *ynāmu*
PROSP- sleep:3.PL
'When he comes back, the children are about to go to bed.'

(44) *ɛalabāl*   *ma*   *niwṣal* *ḥa-* *ykūn*   *nām*
by the time that arrive FUT- be:3.M.SG sleep:3.M.SG
'By the time we get there he will have gone to bed.'

(45) *baɛd*ⁱ *kidahuwwat* *ḥa-* *tkūn*   *il-*   *muluxiyya*   *ba'a*
after this   ASS- be:3.F.SG the- Jew's mallow then
nišfit
become dry:3.F.SG
'After this the Jew's mallow will have become dry.'

(46) *ḥa-* *ykūn*   *xallaṣ*   *iš-* *šuġl* *da*   *imbāriḥ*
ASS- be:3.M.SG finish:3.M.SG the- work this yesterday
'He will have finished that work yesterday.'

(47) εala   ma   niwsal   ḥa-   ykūnu   b-   yitġaddu
     upon   that   arrive:1.PL FUT- be:3.PL PROG- eat lunch:3.PL
     'When we get there, they will be eating lunch.'

(48) *lāzim   arawwaḥ;*   ḥa-   ykūn
     necessary go home:1.SG   ASS-   be:3.M.SG
     bi-   yintaẓir-   ni   dilwa'ti
     PROG- wait for:3.M.SG-   me   now
     'I must go home; he will be waiting for me now.'

(49) ḥa-   ykūn   il-   walad bi-   ybīε   burtu'ān
     FUT-   be:3.M.SG   the-   boy   HAB- sell:3.M.SG   oranges
     'The boy will be selling oranges.'

(50) il-   mudīr   εawiz-   ni   akūn   xallaṣt
     the-   boss   want.AP:M.SG-   me   be:1.SG   <u>finish</u>:1.SG
     it-   taqrīr   εala yōm is-sabt
     the-   report   upon Saturday
     'The boss wants me to have finished the report by next Saturday.'

(51) il-   ma'zūn   εa n-   naṣya da' āyi'   yikūn
     the-   marriage official at the- corner minutes   be:3.M.SG
     waṣal
     arrive:3.M.SG
     'The marriage official is at the corner, he may well have arrived after
     a few minutes.'

(52) A. *ya tara   mona   rāḥit   fēn?*
        MODAL[180] Mona   <u>go</u>:3.F.SG   where
        'I wonder where Mona went?'

     B. *tikūn   rāḥit   εand waḥda ṣaḥbit- ha*
        be:3.F.SG   <u>go</u>:3.F.SG   at   one   friend- her
        'She may well have gone to one of her friends.'

(53) εawzā-   k   tikūn   bi-   tġanni
     want.AP:F.SG-   you   be:3.F.SG   PROG- sing:3.F.SG
     'She wants you to be singing.'

(54) tikūn   bi-   tiṣṣannat   εalē- na   ẓayy[i]
     be:3.F.SG   PROG-   eavesdrop:3.F.SG   on-   us   like

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180. The modal adverb *ya tara*, consisting of the vocative particle and the verb
form *tara* 'you see', may be added to questions to make them less direct. It is
usually translated with 'I wonder'.

εawayid- ha
habits-   her
'She may well be eavesdropping on us like she usually does.'

(55) iwεa   tkūn   bi-   tiḥlam   w   inta
MODAL[181] be:2.M.SG PROG- dream:2.M.SG and you
māši
walk.AP:M.SG
'I hope you're not (in the habit of) dreaming while you are walking.'

(56) ma-   ykūn-   š   bi-   yištaġal   sawwā'?
NEG- be:3.M.SG- NEG HAB- work:3.M.SG driver
'Doesn't he work as a driver?'

(57) 'iwεa   tkūn   ḥa-   timši
MODAL be:2.M.SG PROSP- go:2.M.SG
'I hope you're not going away.'

(58) tikūn   ḥa-   tzawwaġ
be:3.F.SG PROSP- play truant:3.F.SG
'She may well be going to play truant.'

7.4.3. Discussion

Most EA complex forms confirm the ordering principles reflected in the FG model. A combination of Past Mood and Future Tense, which is theoretically possible, is not attested. A possible explanation for the absence of such a verbal complex may be that the simultaneous expression of Past Mood (π_3) and Past Tense (π_2) requires a quite rare context, in which a narrator reveals something that will occur at some point later in a story.[182]

Two of the complex forms in table 24 do not agree with the proposed ordering of TMA values: *kān yiktib* and *kunt iktib*, both of which convey a deontic modal value concerning a past event. *iktib* is a special imperative

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181. The preverbal modal marker *'iwεa*, which is the masculine singular imperative form of the verb *wiεi*ᵥ 'to take care', expresses a strong negative wish in combination with a bare prefix form of *kān*ᵥ. *'iwεa yikūn* is translated as 'let it not be that...' or 'I do not hope that...'.

182. An example of such a context is reflected in a sentence like *He rested for a moment and used all the water to wash his face, not knowing how badly he would regret this later*. The *he would regret*-part of the sentences expresses a future in the past.

form and generally used in directive expressions only. *yiktib* can be used with a wider directive function, including some adhortative and desiderative uses. It also is used to mark Nonactual Mood. In the table I have suggested that the forms of *kān*_V in these verbal complexes indicate Past Tense (π_2), and the lexical verbs Directive Illocution (π_4) as the interpretation 'you should have done' seems to follow logically from a command which is situated in the past.[183]

This analysis is problematic for my theoretical approach, as it would mean that an outer operator is expressed on the predicate, while the inner operator is expressed on *kān*_V contrary to the ordering principles. In chapter 5 (section 5.6.2) I mentioned two other reasons why an analysis of the imperative as the expression of a π_4-value is not compatible with some of the hypotheses following from the FG model of underlying layered clause structure. Since the value of the form *yiktib* in *kān yiktib* involves similar incompatiblities, a reconsideration of the treatment of directive forms (or of the representation of Basic Illocution in general) seems unavoidable.

Disregarding these two problematic forms, the EA verbal system appears to be amazingly consistent, allowing for almost all combinations of TMA values as long as they belong to different layers and follow the rule that the lower operator value must be expressed on the predicate. Only one type of verbal complex can be interpreted as expressing two values of the same layer, namely *yikūn biyiktib* as the expression of Nonactual Mood (π_2) and Habitual Aspect (π_2). As the model allows for the simultaneous expression of different categories belonging to the same layer (such as Quantificational Aspect (π_2) and Tense (π_2)), this combination does not invalidate the theoretical premises.

With respect to the description of EA verbal complexes given here it must be stressed that it is intended to illustrate the FG principles in question, without striving for an exhaustive account of the EA verb, as this

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183. Bravmann (1953: 131-132) mentions the occurrence of *kunt iktib*-forms in Yemen, Palestine, and Transjordan, and relates the use of the suffix set of *kān*_V in these verbal complexes to an originally conditional meaning of the expression. This analysis does not explain the exclusively past interpretation of *kunt iktib*, and is therefore not adopted here. Bravmann (1953: 124) also mentions the existence of a verbal complex with the form *kūn ktebt* in Algerian Arabic conditional expressions such as *kūn skett xēr lek* 'If you had kept silent, it would have been better for you'. This consists of an imperative form followed by a suffix form, which, contrary to the *kunt iktib*-form, would conform to the expected format.

would have to include additional forms (such as the optional progressive marker *ɛammāl*) and details. It is not claimed that other MA dialects have a similar classification of verbal complexes. As explained in chapter 5, some of them make much less use of temporal marking (such as Najdi Arabic, for instance) and consequently use much less verbal complexes.

Some MA dialects have more obligatory categories and may have more elaborate verbal complexes. Comrie (1990: 11) gives the following example of a Maltese 'future-in-the-past-progressive', which combines the expression of the π_3-value Past Mood (*kīn*), the π_2-value Future Tense (*se-ykūn*) and the π_1-value Progressive Aspect (*qed yikteb*):

Maltese (Comrie 1990: 11)
(60) *kīn*　　　　*se-　ykūn*　　　　*qed　yikteb*
　　 be:3.M.SG　FUT- be:3.M.SG　PROG　write:3.M.SG
　　 'He was going to be writing.'

No matter how many or how few TMA values a particular MA dialect may have, the current model predicts in which way they will be ordered in verbal complexes with *kān$_V$*. In the following section the ordering of TMA values will be applied to the analysis of verbal complexes with the AP-form *kāyin* in Jordanian Arabic. Most MA dialects, including Egyptian Arabic, may form complex verbal expressions involving other verbs than *kān$_V$*. These will be discussed briefly in section 7.5.

7.4.4. Some verbal complexes in Jordanian Arabic

As stated above, MA dialects vary with respect to the distribution and expression of TMA values. In Jordanian Arabic (JA), the AP is used to mark Past Tense as well as Perfect Aspect (see chapter 6).[184] The JA expression in (61) can thus have two interpretations:

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184. According to Mitchell and El-Hassan (1994: 74), this temporal function of the AP is limited to "verbs of the (potentially) durative type".

Jordanian Arabic (Mitchell and El-Hassan (1994: 78)
(61) *kān*   *lābis*   *il-*   *badle*
<u>be</u>:3.M.SG put on.AP:M.SG the- suit
'He had put on the suit (implying that he was wearing it).'
'He had put on the suit (and possibly taken it off later).'

In the first interpretation of (61), the verbal complex expresses the π_3-value
Past Mood (*kān*) in combination with the π_1-value Perfect Aspect (*lābis*).
The second interpretation combines Past Mood (π_3) with Past Tense (π_2).
The latter interpretation is not possible for the equivalent verbal complex in
Egyptian Arabic, where the AP cannot express Past Tense:

Egyptian Arabic (Mitchell and Al-Hassan (1994: 78)
(62) *kān*   *lābis*   *il-*   *badla*
<u>be</u>:3.M.SG put on.AP:M.SG the- suit
'He had put on the suit (implying that he was wearing it).'
*'He had been wearing the suit (and possibly taken it off later).'

In view of the temporal meaning of the AP in JA, it is not surprising that
the AP of *kān*$_V$ may occur in verbal complexes such as *kāyin lābis* 'he had
put on', which are not possible in Egyptian Arabic and most other MA
dialects. According to Mitchell and El-Hassan, *kāyin lābis* does not imply
that the resultant state is still valid.

Jordanian Arabic (Mitchell and El-Hassan 1994: 79)
(63) *kāyin*   *lābis*   *il-*   *badle w*
be.AP:M.SG put on.AP:M.SG the- suit and
šāliḥ-   *ha*
take of.AP:M.SG- it
'He had worn the suit and taken it off.'

In the example in (63), the AP of the lexical predicate cannot be interpreted
as the expression of Perfect Aspect (π_1) as the form is not used to indicate
a resultant state. Thus, the AP-form *lābis* must be interpreted as the expres-
sion of Past Tense. The ordering principles predict that the AP of *kān*$_V$ will
probably express a TMA value of a higher layer, which, considering the
meaning of the verbal complex, must be Past Mood. From the examples in
Mitchell and Al-Hassan I can not deduce whether this analysis is correct.
It seems to me that an expression such as in (63) can only be used in a nar-

rative way, which would entail an interpretation in terms of the π_3-value Past Mood (*kāyin*) and the π_2-value Past Tense (*lābis*).

A related difference between JA and other MA dialects is that, in JA, the combination *kān katab* cannot be used to express any of the following combinations: (i) Past Tense (π_2) and Perfect Aspect (π_1), (ii) Past Mood (π_3) and Perfect Aspect (π_1), and (iii) Past Mood (π_3) and Past Tense (π_2). These combinations are all possible in Egyptian Arabic. In the following example, the form of *kān*$_V$ expresses Past Mood. The AP of the lexical verb indicates Perfect Aspect (or Past Tense):

Jordanian Arabic (Mitchell and El-Hassan 1994: 74)
(64) *nabīl   kān   kātib   ir-   risāle   lamma*
      Nabīl   <u>be</u>:3.M.SG   write.AP:M.SG   the-   letter   when
      šabb   il-   harī'
      <u>break out</u>:3.M.SG   the-   fire
      [* *nabīl kān katab irrisāle lamma šabb ilharī'*]
      'Nabil had written the letter when the fire broke out.'

The AP in (64) can not be replaced by the suffix form *katab*. In my view, this indicates that the JA suffix set may not indicate Past Tense or Perfect Aspect, and that these functions are taken over by the AP. The only temporal meaning which can still be expressed by the JA suffix set is Past Mood. This explains the results of the following investigation of the meaning of the JA suffix set and AP (Mitchell and El-Hassan 1994: 18). 48 Jordanians were asked to indicate which of the pair of sentences in (65) suggests that the Speaker was an eye-witness of the event spoken of:

Jordanian Arabic (Mitchell and El-Hassan 1994: 18)
(65) a. *samīr   ḍarab   munīr*
         Sameer   <u>hit</u>:3.M.SG   Muneer
      b. *samīr   ḍārib   munīr*
         Sameer   hit.AP:M.SG   Muneer
         'Sameer hit Muneer.'

Confronted with these contrasting expressions, 46 of the Jordanians indicated that (65a) (with the suffix set) suggests that the Speaker was an eye-witness of the incident, while only 2 informants indicated (65b). Likewise, the Jordanian Arabic example in (66) is claimed to carry a narrative connotation with the suffix set (66a), which is not implied by the AP (66b):

Jordanian Arabic (Mitchell and El-Hassan 1994: 18)

(66) a. *fa* *zār-* *hum* *hāzim* *'ams* *w*
          so <u>visit</u>:3.M.SG- them Hazim yesterday and
          xabbar- *hum* *εan* *kull* *mā* *jara*
          inform:3.M.SG- them about all that <u>happen</u>:3.M.SG

   b. *fa* *zāyir-* *hum* *hāzim* *'ams* *wi*
          so <u>visit</u>.AP:M.SG- them Hazim yesterday and
          mxabbir- *hum* *εan* *kull* *mā* *jara*
          inform.AP:M.SG- them about all that <u>happen</u>:3.M.SG
          'So Hazim visited them yesterday and informed them of all that
          (had) happened.'

Mitchell and El-Hassan (1994:18) account for this difference between the
JA suffix set and AP by ascribing a modal value of strong personal commit-
ment to the suffix set (Assertive Mood). In my analysis, it is not necessary
to distinguish between an assertive value of the suffix set, and a less asser-
tive value of the AP, and I regard the assertive connotation as an implica-
tion of Past Mood. Although the AP may be used to indicate Past Mood
as well (see (63)), this is not its most typical function, and it is probably a
relatively recent development in the shift of the AP from an aspectual to a
temporal form.

    The function of the simple form of the JA suffix set to express Past
Mood confirms my explanation of the non-occurrence of JA *kān katab* in
expressions like (64), which is based on the assumption that the JA suffix
set does not express Past Tense and Perfect Aspect. Many questions concer-
ning the verbal system in JA remain to be answered, however, and await
further study.

7.5. The representation of other auxiliary verbs

In section 7.2.1 I have argued that the differences between *kān$_V$* and the
other incomplete verbs should be reflected in their treatment in FG. If we
accept the general auxiliary support rule described in 7.2.2 as applying to
the insertion of forms of the verb *kān$_V$* only and regard the other incomplete
verbs as the direct expression of operator values, such a different treatment
is established. The verb *kān$_V$* is accounted for by the support rule, which is
triggered by auxiliary μ-operators that need a verb to match a TMA value
with an inflectional code. The other incomplete verbs are selected by

primary μ-operators, which associate a particular operator value with one of the incomplete verbs.

Upon the selection of one of the incomplete verbs as the appropriate expression of a value, the primary μ-operators assign the indicative prefix set code to the verbal predicate (if present) and introduce the as yet un-inflected and uncoded incomplete verb which corresponds to the specific operator value. The incomplete verb may now be used to express another TMA value, which must be of a higher layer than the value associated with the incomplete verb itself.

With nonverbal predicates, the mapping of a TMA value onto one of the incomplete verbs provides for an opportunity to express further TMA values. As such, the incomplete verbs have a copular function which re-sembles the function of *kān*$_V$ with nonverbal predicates. It should be noted that this is never the primary function of the incomplete verbs, while it is the only function of *kān*$_V$. If there is no other operator value to be expres-sed, the incomplete verbs are usually inflected according to the suffix set.

Some of the incomplete verbs seem to modify the inherent aspectuality of the predicate (see chapter 6), by referring to the inception of a state (*šaraε*$_V$, *ṭafiq*$_V$, *bada'*$_V$ and *jaεal*$_V$, with a meaning of 'to start, set in, set out to'; *'aṣbaḥ*$_V$, *'amsā*$_V$, *'aḍhā*$_V$, etc. with a meaning of 'to become'). They might be represented by π_θ-operators, which exert their influence on the meaning of the predicate. Another group of incomplete verbs indicate the continuation of a SoA (*'istamarr*$_V$, *baqiy*$_V$, *mā zāl*$_V$, etc. 'to continue to, not to cease to'). These might be represented by a π_1-operator with a value similar to Progressive Aspect. The verb *kād*$_V$ 'to be about to' may be said to convey the meaning of Prospective Aspect. There are some problems with the analysis of all incomplete verbs as the direct expression of an operator, however, which need to be discussed first.

Not all incomplete verbs have special characteristics which set them apart from 'normal' verbs. The verbs *bada'*$_V$ 'to begin', *baqiy*$_V$ 'to remain, stay, continue to be', and *kād*$_V$ 'to be on the point, be about', for instance, appear to have no reduced meaning in their functions as incomplete verbs in MSA. Even the verbs that do have a less specific meaning in their incomplete use are, in this respect, not different from some verbs outside the incomplete group, which may have a reduced meaning in combinations with another predicate too. The verb *εād*$_V$ 'to return', for instance, forms complex verbal expressions with verbs in the indicative prefix set with the specific meaning of 'to resume (an activity)'. The verb *rāḥ*$_V$ 'to go' could be added to the group of *šaraε*$_V$, *ṭafiq*$_V$, *bada'*$_V$, etc., as it is translated with 'to begin, set

out to do' when combined with a following verb in the indicative prefix set. If verbs like εād$_V$ and rāh$_V$ are considered too, we end up with a rather large group of verbs which would all be introduced by operators.

To avoid an unnecessary proliferation of the number of operator values, I suggest making a differentiation among the incomplete verbs. Some of them may well be represented as independent verbs with a core predication as (obligatory) argument, as in (67):

(67) a. *jaεala   xālid- un   yaktubu   r- risālata*
     <u>start</u>:3.M.SG Khalid- NOM write:IND.3.M.SG the-letter
     'Khalid started to write the letter.'

   b. π_2: PAST *jaεal*$_V$ (x$_1$: *xālid*)$_{Ag}$ [π_1: PROG *katab*$_V$ (x$_1$)$_{Ag}$ (*r-risālat*)$_{Go}$]$_{Go}$

Others can be captured by predicate formation rules of the recurrent type, possibly represented by π_σ-operators (see chapter 4). Only verbs which show a sufficient degree of grammaticalization should be captured by operators of the higher layers. Verbs within and outside the group of incomplete verbs must be investigated separately to determine which option is most adequate for each of them.

In the MA dialects we find much more variation with respect to the degree of grammaticalization of verbal complexes, and the need to differentiate between various types of complex verbal expressions is felt more strongly than in CA and MSA. Almost all types of embedding and complementation can be expressed asyndetically, leading to sequences of up to five finite verb forms. Some examples from different MA dialects are given below:

    Egyptian Arabic (Mitchell and El-Hassan 1994: 37)
(68) *kān   yihibb*^{i} *yhāwil   yīgi*
    <u>be</u>:3.M.SG want:3.M.SG try:3.M.SG come:3.M.SG
    yzur-   na
    visit:3.M.SG- us
    'He wanted to try to come and see us.'

    Moroccan Arabic (Maas 1995: 240)
(69) *ma   bqit-   š   nqdr   nkmml*
    NEG <u>remain</u>:1.SG- NEG can:1.SG complete:1.SG

ṣ-   ṣijam   gaɛ
the-   fasting MODAL[185]
'I am no longer able to complete the fasting at all.'[186]

(70) Maltese (Vanhove 1994: 289)
kull   meta   mmorru   naraw-   'a   l-   isptār
all   when   go:1.PL   see:1.PL- her the- hospital
to' 'od   ta' bad   tibki
sit:3.F.SG   take:3.F.SG   cry:3.F.SG
'Every time we go and see her at the hospital, she always starts crying.'

The verbs in these complex verbal expressions differ in the degree to which they are grammaticalized, but this can not always be deduced from their formal properties. In Najdi Arabic, for example, the verb *bağa*ᵥ 'to want' is used to express Prospective Aspect as well as Future Tense.[187] Ingham (1994b) gives examples of these two functions, with *bağa*ᵥ in the prefix and suffix set.[188]

Najdi Arabic (Ingham 1994b: 190)
(71) a. *yabi   yṭīḥ*
         want:3.M.SG fall:3.M.SG
         'It is about to fall down.'
     b. *bağēna   nmūt*
         want:1.PL   die:1.PL
         'We almost died.'

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185. The Moroccan Arabic modal particle *gaɛ* is used as a strong emotional intensifier of declarative expressions. For an analysis of its functions I refer to Caubet (1992).

186. Maas (1995: 240) translates this Moroccan Arabic example with the German expression: *Ich konnte auf keinen Fall das Fasten abbrechen*. 'I can certainly not interrupt the fasting', which seems to arise from a wrong interpretation of the verb *kemmel*ᵥ 'to finish, complete'.

187. Similar developments of verbs meaning 'to want' into modal or temporal auxiliaries are attested in other languages (Bybee and Dahl 1989: 90).

188. The prefix set of Najdi Arabic *bağa*ᵥ 'to want' is expressed as *yabi* 'he wants'.

c. *inšid*　　　　*ɛan-*　　*h*　　*w-*　　*akīd*　　*tabi*
ask:IMP.M.SG　about-　him　and-　certain　want:2.M.SG
tilgā-　　　　*h*
find:2.M.SG-　him
'Ask about him and you will definitely find him.'

d. *baḡaw*　　　*yḥīlūn*　　　　　　　*yammi-*　　*h*
<u>want</u>:3.PL　move camp:3.PL　vicinity-　his
'They were going to move camp to his vicinity.'

In examples (71a) and (71b), the forms of the verb *baḡa*$_V$ 'to want' indicate Prospective Aspect in the present and past. After the insertion of *baḡa*$_V$ as the expression of the π_1-operator value Prospective Aspect, the lexical verb is left uncoded and will be expressed in the unmarked form (the prefix set). With present time reference, the verb *baḡa*$_V$ is not coded further, and appears in the unmarked form as well (71a). With past time reference, the verb *baḡa*$_V$ is inflected according to the suffix set (71b).

In (71c) and (71d) the same verb is inserted as the expression of the π_2-operator value Future Tense.[189] In (71d), the verb *baḡa*$_V$ is inflected according to the suffix set to indicate Past Mood. The auxiliary function of *baḡa*$_V$ follows from the semantic analysis of the constructions in which it occurs. In the examples in (71), the interpretation of *baḡa*$_V$ according to its lexical meaning of 'to want' is impossible or odd. A formal sign of the auxiliary function of the verb occurs with present time reference only, where it may be used in a reduced form as the prefix *bi-* (Ingham 1994b: 190).

Maas (1995) discusses how Arabic auxiliary constructions can be distinguished from complex verbal expressions resulting from asyndetical subordination, and gives Moroccan Arabic examples which are similar to the ones in (71). For an FG analysis of the degree of grammaticalization of complex verbal expressions I refer to Goossens (1985a; 1985b; 1987b, also summarized in section 2.2.2.1), who discusses the auxiliarization of English

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189. According to Ingham (1994b: 190), the form *baḡaw* in (71d) expresses a *future of intent*. Without the full context, it can be analyzed as a full verb 'they wanted to move the camp', as the expression of Prospective Aspect 'they were about/going to move the camp' in the sense that they were indeed preparing to do this, or as the expression of Future Tense, with the interpretation that at that point in time, the moving of the camp would occur later.

modal verbs, and Olbertz (1996), who illustrates the diachronical development of some verbal periphrases in Spanish.

7.6. Conclusions

The use of the verb $kān_V$ can be represented in FG by a general support rule, which accounts for the copular as well as the auxiliary functions of this verb. The general support rule can be formalized as follows:

> GENERAL AUXILIARY SUPPORT IN ARABIC
> (71) input: π predicate (x_1) (x_2) ... (x_n)
> conditions: π = any TMA value which requires verbal expression
> predicate = pred$_{-V}$, or π pred$_V$
> output: π $kān_V$ predicate (x_1) (x_2) ... (x_n)

This rule applies to CA/MSA as well as the MA dialects. The order in which π-operators are handled by the expression rules is determined by the position of these operators in the underlying E-structure. TMA values which are associated with lower π-operators are dealt with first. As a consequence, these values tend to be expressed on the lexical predicate, while operator values of higher layers tend to be expressed on a form of $kān_V$. The general support rule and the universal ordering principles for TMA values together account for the possible interpretations of verbal complexes with $kān_V$.

   Complex verbal constructions with other verbs can be represented as:

(i)   Independent verbs with a predication as argument or satellite.

(ii)   Semi-auxiliaries which are introduced by recurrent predicate formation rules.

(iii)   The direct expression of a π-operator.

Analogous to Hengeveld's terminology for copula's (Hengeveld 1992b: 32-34), we can distinguish between the verb types by calling them (i) pseudo-auxiliaries, (ii) semi-auxiliaries, and (iii) auxiliaries. Some verbs may have independent as well as (semi-)auxiliary functions. All verbs concerned must be investigated separately, and the analysis of similar verbs may turn out to differ substantially from one variety of Arabic to the other.

8. General conclusions

8.1. The Arabic data

8.1.1. The investigation

Before turning to the presentation of the conclusions, I will pay some attention to the nature and quality of the material on which they are based. Most descriptions of MA dialects have more elaborate sections on phonology and morphology than on syntax. Still, quite a number of grammars and studies provide detailed accounts of the functions of verb forms. These works are quite heterogeneous with respect to the ways in which they describe TMA phenomena. Eksell (1995: 68) describes the diversity of the material as follows: "It is obvious that the grammatical descriptions use different systems of classification. Some emphasize the tense, other the aspect, others again the Aktionsart. This confusion is paralleled by the very real mixture of the three categories in the actual linguistic structures."

Works which depart from a specific theoretical approach have several advantages over descriptions without reference to (or introduction of) their general linguistic background. First of all, the meaning of the terms used to assign functions to particular verb forms are either defined or can be deduced from current usage in the broader framework. This is very important in dealing with TMA phenomena, as the specific aspectual, modal or temporal functions of a verb form can often not be translated unambiguously. Secondly, the application of a theoretical framework usually leads to a systematic description, which reduces the chance that particular uses of a verb form or verbal complex are accidentally overlooked.[190]

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190. It is interesting that this positive effect appears to occur regardless of the type of theory chosen. I have thus profited from studies induced by a generativist approach (such as Fassi Fehri (1993) on MSA and Wise (1975) on Egyptian Arabic) as well as from works with an 'enunciative' theoretical background (D. Cohen (1989), Caubet (1986; 1987; 1991; 1992; 1993), Vanhove (1991; 1993; 1995), Simeone-Senelle et al. (1985), and other exponents of what Eksell (1995: 67) calls "the Paris school of modern Arabic Linguistics"), to mention two quite different approaches.

Some dialect studies appear to suffer from the influence of (the traditional orientalist approach to) the grammar of Classical Arabic, in the sense that verb forms in MA dialects are expected to have the same primary meaning as their counterparts in CA or MSA. The uses of these verb forms are then described from the perspective of their supposed function in CA/MSA, which hinders an analysis in their own right. In my opinion, the persistent description of MA verb forms in terms of "aspectual forms with a temporal interpretation" can be partially explained by the absence of obligatory temporal marking in CA, which is assumed to be preserved in the verbal systems of MA dialects. The presupposed derivational relation of some MA preverbal markers to CA/MSA *qad* presents another example of this kind of interference. The adoption of a theoretical rather than an orientalist perspective may avoid the unfounded generalization of CA syntax to MA dialects.

In addition to variation in the amount of detail and clarity of terminology, the descriptions also vary in their reliability. It is not always indicated whether grammars are based on the analysis of texts, on natural conversations, or on the questioning of one or more informants.[191] MA grammars may be partly based on introspection, while works on CA and MSA often refer to earlier descriptions.

Some varieties have been studied extensively, so that descriptions of their verbal system can be compared with other sources. My statements concerning CA, MSA, and rather well described MA dialects such as Egyptian and Moroccan Arabic are usually based on a number of grammars and articles.[192] There are only few studies on Jordanian or Nigerian Arabic, however, and for the examples and interpretation of these and other rarely described varieties I have been forced to rely on the judgement of relatively few scholars, and at times a single authority.

In spite of the heterogeneity in their approach and depth of analysis, the various works together provide enough information for a coherent account

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191. Naturally, some studies do mention all the necessary information, such as the type of texts or discourses analyzed, the number of informants and their characteristics in terms of age, sex, educational background, etc.

192. Only the studies and grammars which are mentioned have been included in the list of references. For the development of my analysis and the confirmation of some interpretations I have consulted other works, texts, and (occasionally) informants.

of verbal expression in Arabic. The most important characteristics will be summed up in the following sections.

8.1.2. The verbal predicate

Verbal derivation in Arabic can be described satisfactorily by predicate formation rules. Verbal patterns may figure in the output-phrase of several different predicate formation rules. Verbs which are themselves formed through predicate formation can serve as input for other predicate formation rules. Arabic predicate formation rules are quite flexible with regard to the form and specific category of the input predicate.

Most derived verbs are, once they are formed, registered in the lexicon. They are not considered to be formed or interpreted through the application of predicate formation rules each time they occur. An exception is made for the regular derivation of passive/mediopassive verbs in MA dialects. This type of predicate formation is supposed to be applied recurrently, and may be represented by a π_θ-operator with the value (Medio)Passive.

Nominal APs are derived by incidental predicate formation rules, and are listed in the lexicon. APs which function as adjectives are derived by re-current predicate formation rules. The verbal use of APs in MA dialects is accounted for by π-operators, which assign the AP-form as an inflectional category to the verbal predicate (see also 8.1.3.3). With regard to CA/MSA, the verbal use of the AP is considered to be not integrated into the verbal system to the extent that it can be represented by π-operators. The verbal-like function of APs in these varieties may be treated as an extension of the adjectival function.

8.1.3. Simple verb forms

8.1.3.1. Diachronical developments

Most Arabic verb forms may express several different but semantically related TMA values. I have paid little attention to the relationship between these different values so far. Hengeveld's second hypothesis (Hengeveld 1989: 141) predicts a tendency for developments in the field of operators to follow the direction $\pi_1 > \pi_2 > \pi_3 > \pi_4$. This hypothesis reflects the universally attested direction of diachronical developments in TMA categories.

In general, Arabic verb forms seem to conform to the paths of development attested in other languages.

The use of the suffix set to indicate Past Tense, for instance, may be considered as a secondary, and thus more recent, use of an originally purely aspectual form.[193] From this perspective, the relationship between the synchronic functions of the suffix set in CA/MSA and most MA dialects may be interpreted as the logical outcome of a gradual semantic development. The model predicts that the expression of Perfect Aspect (π_1) comes prior to the expression of Past Tense (π_2), and that Past Tense comes before Past Mood (π_3) or Factual Mood (π_3). There is not enough evidence to confirm all these steps, but the expression of Past Mood in at least some varieties is not as tightly integrated into the verbal system as the expression of Past Tense. It will be interesting to investigate whether these varieties have a more limited use of the suffix set to indicate Factual Mood as well.

Preverbal prospective/future markers in MA dialects, such as Egyptian Arabic *ha-* and Moroccan Arabic *ġadi* or *ġa-*, or Najdi Arabic *bi-*, probably originated as verbal complexes with a movement or modal verb and the prospective meaning of 'to be going to'. The future and predictive meaning of these preverbal markers may have developed later. The suggested development based on Hengeveld's hypothesis is Prospective Aspect (π_1) > Future Tense (π_2) > Assertive Mood (π_3). For progressive/habitual markers like Egyptian Arabic *bi-* and Moroccan Arabic *ka-* a development from Progressive Aspect (π_1) to Habitual Aspect (π_2) and Generic Mood (π_3) is plausible (see Cuvalay 1991: 146-152). Some MA dialects have developed a new progressive marker, such as the optional Egyptian Arabic preverbal marker *ɛammāl*, which is used with the prefix set with *bi-*. In Syrian Arabic, [*ɛam b(i)-* + prefix set] is used with progressive as well as habitual meaning.

In dialects which have both prospective/future and progressive/habitual markers, the prefix set without preverbal marker developed from the aspectually neutral, unmarked form into a marker of the π_2-value Nonactual Mood. It seems that both deontic and epistemic modal uses may originate

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193. See for instance Reuschel (1968: 149), Rendsburg (1991: 1271), and Eksell (1995: 69). Eksell formulates the diachronical development of the prefix and suffix sets as follows: "The conjugations are thus no longer primarily aspectual and then applied to different tenses; they are primarily temporal, with residues of the aspects secondarily inherent in the total function".

from the function of indicating Nonactual Mood. In Egyptian Arabic, the bare prefix set partially expanded its functions to include the π_3-value Inferential Mood and the π_4-value Directive Illocution (Cuvalay 1991: 154-155). Similar uses of the prefix set without *ka-* occur in Moroccan Arabic (Caubet 1993b).

The suggested paths of development are summed up in table 25:

Table 25. Suggested paths of development for Arabic verb forms

$\pi 1$	>	π_2	>	π_3	>	π_4
Perfect Aspect	> Past Tense		> Past Mood		> Factual Mood	
Prospective Aspect	> Future Tense		> Assertive Mood			
Progressive Aspect	> Habitual Aspect		> Generic Mood			
Unmarked form	> Nonactual Mood		> Inferential Mood		> Directive Illocution	

As discussed in section 5.6.2, the use of the imperative verb form to describe a rapid sequence in (mostly) bedouin dialects does not conform to this general scheme. In view of the fact that the imperative behaves as 'the odd one out' in several other respects, a different analysis of the imperative and other directive forms should be considered (see 8.2).

8.1.3.2. The etymology of *qad*

A comparison of the functions of *qad* in CA, MSA and some MA dialects suggests a development of this preverbal marker from the suffix or AP form of the verb *qaɛad*ᵥ 'to sit'. The use of CA/MSA [*qad* + suffix set] to express Perfect Aspect (π_1) appears to be older than its function of indicating Past Tense. This suggests a later, but similar development as proposed for the suffix set without preverbal marker. In MSA, [*qad* + suffix set] seems to have replaced the suffix set without *qad* in some contexts. An analysis in terms of a Present Tense copula is considered for the equivalents of *qad* in some Yemeni Arabic dialects.

8.1.3.3. The Active Participle

The AP has aspectual and modal functions in MA dialects. In its aspectual use, the AP is most often associated with Perfect Aspect, but, depending on the Aktionsart of the SoA, it may express Progressive Aspect as well. For some movement verbs, the AP expresses two types of Perfect Aspect, one of them implying that the movement is still going on, and the other that the result of the movement is still perceivable. In the first case, the perfect meaning is related to the inception of an activity, and in the second case to its completion.

In its modal function, the AP indicates the certainty that the SoA occurred/is occurring/will occur. This function of the AP can be described as the expression of Actual Mood, and it is independent of the aspectual characterization of the SoA or its temporal location. In its modal function, the AP often refers to a scheduled event or a firm intention and may seem to express Prospective Aspect.

The Jordanian Arabic AP of [+ dyn] verbs indicates Perfect Aspect and Past Tense. It may express Past Mood as well, but this function is not firmly established. Considering the function of the AP in other varieties, it is likely that the non-modal Jordanian Arabic AP of [+ dyn] verbs originally expressed Perfect Aspect only. As a result of the further development of the AP in Jordanian Arabic, the suffix set of this MA dialect lost (part of) its original functions of indicating Perfect Aspect and Past Tense. The apparent extension of meaning of the Jordanian Arabic AP copies the suggested semantic development of the suffix set, and that of CA/MSA [*qad* + suffix set].

8.1.4. Verbal complexes

8.1.4.1. Verbal complexes with a form of kān_V

The occurrence of the auxiliary and copular verb *kān*$_V$ can be accounted for by a general support rule, which inserts the as yet uninflected supportive verb whenever a particular TMA value needs a verb to be expressed upon, while there is no such verb available. The order in which TMA values are handled by the expression rules is predicted by their place in the hierarchy of layers in the underlying E-structure. In verbal complexes, this order determines which TMA value will be expressed by the lexical verb, and which value will be expressed by *kān*$_V$. This mechanism is illustrated by a

number of verbal complexes in CA/MSA and Egyptian Arabic, and is predicted to function in the same way in other MA dialects.

Two out of the 28 Egyptian Arabic verbal complexes described in chapter 7 do not conform to the expected format, namely *kunt iktib* 'you should have written' and *kān yiktib* 'he should have written'. The simple forms *iktib* and *yiktib* are both analyzed as the expression of the π_4-operator value Directive Illocution. *iktib* can be used for the 2nd person only, while *yiktib* can be inflected for all persons (including 2nd persons). The similar function of the two forms in verbal complexes with a suffix form of $kān_V$ has been interpreted as resulting from the combination of Past Tense (π_2) with Directive Illocution (π_4). The fact that the suffix set, expressing Past Tense, is mapped onto $kān_V$, while the imperative form (*iktib*) or prefix set (*yiktib*) is mapped onto the lexical predicate, cannot be explained by the current model. Since the imperative form also deviates from theoretical expectations with respect to its diachronical development (see section 8.1.3.1), the representation of directive forms as the expression of a π_4-operator has to be rejected, or the position of Basic Illocution in the E-structure must be modified.

A more serious threat to the proposed analysis resides in the frequent occurrence of verbal complexes such as CA/MSA *kāna yaɛrifu* 'he knew', or Egyptian Arabic *kān yiḥibb* 'he liked', where the prefix form of the lexical predicate appears to be in the unmarked form. With an unmarked form of the lexical predicate, the support rule is not supposed to operate. The existence of these forms suggest that an additional TMA value, for instance Imperfective Aspect (π_1), should be introduced, or that a special blocking device prevents the assignment of Past Mood (π_3) to this type of verb. The implications of these solutions must be contemplated further.

8.1.4.2. Complex verbal expressions with other auxiliaries

Verbs other than $kān_V$ occurring in complex verbal expressions are identified as:

(i)   *Pseudo-auxiliaries* - Independent verbs with a predication as argument or satellite.

(ii) *Semi-auxiliaries*   - Introduced by recurrent predicate formation rules.

(iii) *Auxiliaries*   - The direct expression of a π-operator.

Options (i) and (ii) seem to be most appropriate for CA and MSA. Most MA dialects have auxiliaries which are grammaticalized to the extent that they can be represented as the direct expression of a π-operator (option iii).

8.2. Implications for FG

In general, the FG model provides a powerful tool for the description and interpretation of verb forms in CA/MSA and MA dialects. All of the discussed phenomena can be formalized in an insightful way, which facilitates comparison of different varieties of Arabic with each other or with languages outside the Arabic group. Most of the expectations implied by the model are confirmed by the Arabic data. The application of the FG principles generates interesting and relatively precise hypotheses which may stimulate a more systematic comparison of MA dialects with regard to TMA phenomena.

The results of the theory-internal investigation have been presented in section 3.4, and will not be repeated here. Some of the results of the descriptive part may also have implications for the further development of the model:

(i)   The treatment of predicate formation can be refined by distinguishing between incidental and recurrent predicate formation rules.

(ii)   The feature [± inceptive] is possibly relevant for the typology of SoAs.

(iii) A general supportive rule can account for the combined functions of copular/auxiliary verbs in some languages.

(iv)   Imperative forms may not be analyzed as the direct expression of an illocutionary value in the current set-up of the model.

To improve the interaction between theoretical and descriptive linguists, more attention must be paid to the operationalization of the model. As a theoretical approach can only be tested by applying it to natural languages, it may be worthwhile to formulate more precise and readily applicable cri-

teria to assign TMA values to verb forms. Adequate tests, questionnaires and other guidelines to support fieldwork and statistical investigations of corpora are, in my view, badly needed.

8.3. Evaluation

The present work proves that the FG principles can be applied succesfully, even in a domain as complex as verbal expression. The application of these principles has resulted in new insights in the dynamics of the Arabic verbal system, and contributes to a coherent description of TMA phenomena in different varieties of the language.

The diversity within the Arabic language group makes the continuing investigation and description of the MA dialects extremely interesting for general linguistics, and I hope that my account of the verbal system will contribute to the research in this area.

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